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(54) Title: METHODS OF DIAGNOSIS OF ANGIOGENESIS, COMPOSITIONS AND METHODS OF SCREENING FOR ANGIOGENESIS MODULATORS

(57) Abstract: Described herein are methods and compositions that can be used for diagnosis and treatment of angiogenic phenotypes and angiogenesis-associated diseases. Also described herein are methods that can be used to identify modulators of angiogenesis.

METHODS OF DIAGNOSIS OF ANGIOGENESIS, COMPOSITIONS AND METHODS OF SCREENING FOR ANGIOGENESIS MODULATORS

CROSS-REFERENCES TO RELATED APPLICATIONS

This application claims priority to USSN 09/784,356, filed February 14 2001; USSN 09/791,390, filed February 22, 2001; USSN 60/285,475, filed April 19, 2001, USSN 60/310,025, filed August 3, 2001, and USSN 60/334,244, filed November 29, 2001, each of which is herein incorporated by reference in its entirety.

FIELD OF THE INVENTION

The invention relates to the identification of nucleic acid and protein expression profiles and nucleic acids, products, and antibodies thereto that are involved in angiogenesis; and to the use of such expression profiles and compositions in diagnosis and therapy of angiogenesis. The invention further relates to methods for identifying and using agents and/or targets that modulate angiogenesis.

BACKGROUND OF THE INVENTION

Both vasculogenesis, the development of an interactive vascular system comprising arteries and veins, and angiogenesis, the generation of new blood vessels, play a role in embryonic development. In contrast, angiogenesis is limited in a normal adult to the placenta, ovary, endometrium and sites of wound healing. However, angiogenesis, or its absence, plays an important role in the maintenance of a variety of pathological states. Some of these states are characterized by neovascularization, *e.g.*, cancer, diabetic retinopathy, glaucoma, and age related macular degeneration. Others, *e.g.*, stroke, infertility, heart disease, ulcers, and scleroderma, are diseases of angiogenic insufficiency.

Angiogenesis has a number of stages (see, *e.g.*, Folkman, *J.Natl Cancer Inst.* 82:4-6, 1990; Firestein, *J Clin Invest.*103:3-4, 1999; Koch, *Arthritis Rheum.*41:951-62, 1998; Carter, *Oncologist* 5(Suppl 1):51-4, 2000; Browder *et al.*, *Cancer Res.* 60:1878-86, 2000; and Zhu and Witte, *Invest New Drugs* 17:195-212, 1999). The early stages of angiogenesis include endothelial cell protease production, migration of cells, and proliferation. The early stages also appear to require some growth factors, with VEGF, TGF-α, angiostatin, and selected chemokines all putatively playing a role. Later stages of angiogenesis include population of the vessels with mural cells (pericytes or smooth muscle cells), basement membrane production, and the induction of vessel bed specializations. The final stages of vessel formation include what is known as "remodeling", wherein a forming vasculature becomes a stable, mature vessel bed. Thus, the process is highly dynamic, often requiring coordinated spatial and temporal waves of gene expression.

Conversely, the complex process may be subject to disruption by interfering with one or more critical steps. Thus, the lack of understanding of the dynamics of angiogenesis prevents therapeutic intervention in serious diseases such as those indicated. It is an object of the invention to provide methods that can be used to screen compounds for the ability to modulate angiogenesis. Additionally, it is an object to provide molecular targets for therapeutic intervention in disease states which either have an undesirable excess or a deficit in angiogenesis. The present invention provides solutions to both.

SUMMARY OF THE INVENTION

The present invention provides compositions and methods for detecting or modulating angiogenesis associated sequences.

In one aspect, the invention provides a method of detecting an angiogenesis-associated transcript in a cell in a patient, the method comprising contacting a biological sample from the patient with a polynucleotide that selectively hybridized to a sequence at least 80% identical to a sequence as shown in Tables 1-8. In one embodiment, the biological sample is a tissue sample. In another embodiment, the biological sample comprises isolated nucleic acids, which are often mRNA.

In another embodiment, the method further comprises the step of amplifying nucleic acids before the step of contacting the biological sample with the polynucleotide. Often, the polynucleotide comprises a sequence as shown in Tables 1-8. The polynucleotide can be labeled, for example, with a fluorescent label and can be immobilized on a solid surface.

In other embodiments the patient is undergoing a therapeutic regimen to treat a disease associated with angiogenesis or the patient is suspected of having an angiogenesis-associated disorder.

In another aspect, the invention comprises an isolated nucleic acid molecule consisting of a polynucleotide sequence as shown in Tables 1-8. The nucleic acid molecule can be labeled, for example, with a fluorescent label,

In other aspects, the invention provides an expression vector comprising an isolated nucleic acid molecule consisting of a polynucleotide sequence as shown in Tables 1-8 or a host cell comprising the expression vector.

In another embodiment, the isolated nucleic acid molecule encodes a polypeptide having an amino acid sequence as shown in Table 8.

In another aspect, the invention provides an isolated polypeptide which is encoded by a nucleic acid molecule having polynucleotide sequence as shown in Tables 1-8. In one embodiment, the isolated polypeptide has an amino acid sequence as shown in Table 8.

In another embodiment, the invention provides an antibody that specifically binds a polypeptide that has an amino acid sequence as shown in Table 8 or which is encoded by a nucleotide sequence of Tables 1-8 . The antibody can be conjugated or fused to an effector component such as a fluorescent label, a toxin, or a radioisotope. In some embodiments, the antibody is an antibody fragment or a humanized antibody.

In another aspect, the invention provides a method of detecting a cell undergoing angiogenesis in a biological sample from a patient, the method comprising contacting the biological sample with an antibody that specifically binds to a polypeptide that has an amino acid sequence as shown in Table 8 or which is encoded by a nucleotide sequence of Tables 1-8 . In some embodiments, the antibody is further conjugated or fused to an effector component, for example, a fluorescent label.

In another embodiment, the invention provides a method of detecting antibodies specific to angiogenesis in a patient, the method comprising contacting a biological sample from the patient with a polypeptide which is encoded by a nucleotide sequence of Tables 1-8.

The invention also provides a method of identifying a compound that modulates the activity of an angiogenesis-associated polypeptide, the method comprising the steps of: (i) contacting the compound with a polypeptide that comprises at least 80% identity to an amino acid sequence as shown in Table 8 or which is encoded by a nucleotide sequence of Tables 1-8; and (ii) detecting an increase or a decrease in the activity of the polypeptide. In one embodiment, the polypeptide has an amino acid sequence as shown in Table 8 or is a polypeptide encoded by a nucleotide sequence of Tables 1-8. In another embodiment, the polypeptide is expressed in a cell.

The invention also provides a method of identifying a compound that modulates angiogenesis, the method comprising steps of: (i) contacting the compound with a cell undergoing angiogenesis; and (ii) detecting an increase or a decrease in the expression of a polypeptide sequence as shown in Table 8 or a polypeptide which is encoded by a nucleotide sequence of Tables 1-8. In one embodiment, the detecting step comprises hybridizing a nucleic acid sample from the cell with a polynucleotide that selectively hybridizes to a sequence at least 80% identical to a sequence as shown in Tables 1-8. In another embodiment, the method further comprises detecting an increase or decrease in the expression of a second sequence as shown in Table 8 or a polypeptide which is encoded by a nucleotide sequence of Tables 1-8 .

In another embodiment, the invention provides a method of inhibiting angiogenesis in a cell that expresses a polypeptide at least 80% identical to a sequence as shown in Table 8 or which is 80% identical to a polypeptide encoded by a nucleotide sequence of Tables 1-8 , the method comprising the step of contacting the cell with a therapeutically effective amount of an inhibitor of the polypeptide. In one embodiment, the polypeptide has an amino acid sequence shown in Table 8 or is a polypeptide which is encoded by a nucleotide sequence of Tables 1-8 . In another embodiment, the inhibitor is an antibody.

In other embodiments, the invention provides a method of activating angiogenesis in a cell that expresses a polypeptide at least 80% identical to a sequence as shown in Table 8 or at least 80% identical to a polypeptide which is encoded by a nucleotide sequence of Tables 1-8 , the method comprising the step of contacting the cell with a therapeutically effective amount of an activator of the polypeptide. In one embodiment, the polypeptide has an amino acid sequence shown in Table 8 or is a polypeptide which is encoded by a nucleotide sequence of Tables 1-8.

Other aspects of the invention will become apparent to the skilled artisan by the following description of the invention.

Tables 1-8 provide nucleotide sequence of genes that exhibit changes in expression levels as a function of time in tissue undergoing angiogenesis compared to tissue that is not.

DESCRIPTION OF THE SPECIFIC EMBODIMENTS

In accordance with the objects outlined above, the present invention provides novel methods for diagnosis and treatment of disorders associated with angiogenesis (sometimes referred to herein as angiogenesis disorders or AD), as well as methods for screening for compositions which modulate angiogenesis. By "disorder associated with angiogenesis" or "disease associated with angiogenesis" herein is meant a disease state which is marked by either an excess or a deficit of blood vessel development. Angiogenesis disorders asociated with increased angiogenesis include, but are not limited to, cancer and proliferative diabetic retinopathy. Pathological states for which it may be desirable to increase angiogenesis include stroke, heart disease, infertility, ulcers, wound healing, ischemia, and scleradoma. Solid tumors typically require angiogenesis to support or sustain growth, e.g., breast, colon, lung, brain, bladder, and prostate tumors. Other AD include, e.g., arthritis, inflammatory bowel disease, diabetis retinopathy, macular degeneration, atherosclerosis, and psoriasis. Also provided are methods for treating AD.

Definitions

The term "angiogenesis protein" or "angiogenesis polynucleotide" refers to nucleic acid and polypeptide polymorphic variants, alleles, mutants, and interspecies homologs that: (1) have an amino acid sequence that has greater than about 60% amino acid sequence identity, 65%, 70%, 75%, 80%, 85%, 90%, preferably 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98% or 99% or greater amino acid sequence identity, preferably over a region of over a region of at least about 25, 50, 100, 200, 500, 1000, or more amino acids, to an angiogenesis protein sequence of Table 8; (2) bind to antibodies, *e.g.*, polyclonal antibodies, raised against an immunogen comprising an amino acid sequence of Table 8, and conservatively modified variants thereof; (3) specifically hybridize under stringent hybridization conditions to an anti-sense strand corresponding to a nucleic acid sequence of Tables 1-8 and conservatively modified variants thereof; (4) have a nucleic acid sequence that has greater than about 95%, preferably greater than about 96%, 97%, 98%, 99%, or higher nucleotide sequence identity, preferably over a region of at least about 25, 50, 100, 200, 500, 1000, or more nucleotides, to a sense sequence corresponding to one set out in Tables 1-8 . A polynucleotide or polypeptide sequence is typically from a mammal including, but not limited to, primate, *e.g.*, human; rodent, *e.g.*, rat, mouse, hamster; cow, pig, horse, sheep, or any mammal. An "angiogenesis polypeptide" and an "angiogenesis polynucleotide," include both naturally occurring or recombinant.

A "full length" angiogenesis protein or nucleic acid refers to an agiogenesis polypeptide or polynucleotide sequence, or a variant thereof, that contains all of the elements normally contained in one or more naturally occurring, wild type angiogenesis polynucleotide or polypeptide sequences. The "full length" may be prior to, or after, various stages of post-translation processing.

"Biological sample" as used herein is a sample of biological tissue or fluid that contains nucleic acids or polypeptides, *e.g.*, of an angiogenic protein. Such samples include, but are not limited to, tissue isolated from primates, *e.g.*, humans, or rodents, *e.g.*, mice, and rats. Biological samples may also include sections of tissues such as biopsy and autopsy samples, and frozen sections taken for histologic purposes. A biological sample is typically obtained from a eukaryotic organism, most preferably a mammal such as a primate *e.g.*, chimpanzee or human; cow; dog; cat; a rodent, *e.g.*, guinea pig, rat, mouse; rabbit; or a bird; reptile; or fish.

"Providing a biological sample" means to obtain a biological sample for use in methods described in this invention. Most often, this will be done by removing a sample of cells from an animal, but can also be accomplished by using previously isolated cells (*e.g.*, isolated by another person, at another time, and/or for another purpose), or by performing the methods of the invention *in vivo*. Archival tissues, having treatment or outcome histroy, will be particularly useful.

The terms "identical" or percent "identity," in the context of two or more nucleic acids or polypeptide sequences, refer to two or more sequences or subsequences that are the same or have a specified percentage of amino acid residues or nucleotides that are the same (i.e., about 70% identity, preferably 75%, 80%, 85%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or higher identity over a specified region (e.g., SEQ ID NOS:1-229), when compared and aligned for maximum correspondence over a comparison window or designated region) as measured using a BLAST or BLAST 2.0 sequence comparison algorithms with default parameters described below, or by manual alignment and visual inspection (see, *e.g.*, NCBI web site http://www.ncbi.nlm.nih.gov/BLAST/ or the like). Such sequences are then said to be "substantially identical." This definition also refers to, or may be applied to, the compliment of a test sequence. The definition also includes sequences that have deletions and/or additions, as well as those that have substitutions. As described below, the preferred algorithms can account for gaps and the like. Preferably, identity exists over a region that is at least about 25 amino acids or nucleotides in length, or more preferably over a region that is 50-100 amino acids or nucleotides in length.

For sequence comparison, typically one sequence acts as a reference sequence, to which test sequences are compared. When using a sequence comparison algorithm, test and reference sequences are entered into a computer, subsequence coordinates are designated, if necessary, and sequence algorithm program parameters are designated. Preferably, default program parameters can be used, or alternative parameters can be designated. The sequence comparison algorithm then calculates the percent sequence identities for the test sequences relative to the reference sequence, based on the program parameters.

A "comparison window", as used herein, includes reference to a segment of any one of the number of contiguous positions selected from the group consisting of from 20 to 600, usually about 50 to about 200, more usually about 100 to about 150 in which a sequence may be compared to a reference sequence of the same number of contiguous positions after the two sequences are optimally aligned. Methods of alignment of sequences for comparison are well-known in the art. Optimal alignment of sequences for comparison can be conducted, e.g., by the local homology algorithm of Smith & Waterman, *Adv. Appl. Math.* 2:482 (1981), by the homology alignment algorithm of Needleman & Wunsch, *J. Mol. Biol.* 48:443 (1970), by the search for similarity method of Pearson & Lipman, *Proc. Nat'l. Acad. Sci. USA* 85:2444 (1988), by computerized implementations of these algorithms (GAP, BESTFIT, FASTA, and TFASTA in the Wisconsin Genetics Software Package, Genetics Computer Group, 575 Science Dr., Madison, WI), or by manual alignment and visual inspection (*see, e.g., Current Protocols in Molecular Biology* (Ausubel *et al.*, eds. 1995 supplement)).

A preferred example of algorithm that is suitable for determining percent sequence identity and sequence similarity are the BLAST and BLAST 2.0 algorithms, which are described in Altschul *et al., Nuc. Acids Res.* 25:3389-3402 (1977) and Altschul *et al., J. Mol. Biol.* 215:403-410 (1990), respectively. BLAST and BLAST 2.0 are used, with the parameters described herein, to determine percent sequence identity for the nucleic acids and proteins of the invention. Software for performing BLAST analyses is publicly available through the National Center for Biotechnology Information (http://www.ncbi.nlm.nih.gov/). This algorithm involves first identifying high scoring sequence pairs (HSPs) by identifying short words of length W in the query sequence, which either match or satisfy some positive-valued threshold score T when aligned with a word of the same length in a database sequence. T is referred to as the neighborhood word score threshold (Altschul *et al.*, *supra*). These initial neighborhood word hits act as seeds for initiating searches to find longer HSPs containing them. The word hits are extended in both directions along each sequence for as far as the cumulative alignment score can be increased. Cumulative scores are calculated using, for nucleotide sequences, the parameters M (reward score for a pair of matching residues; always > 0) and N (penalty score for mismatching residues; always < 0). For amino acid sequences, a scoring matrix is used to calculate the cumulative score. Extension of the word hits in each direction are halted when: the cumulative alignment score falls off by the quantity X from its maximum achieved value; the cumulative score goes to zero or below, due to the accumulation of one or more negative-scoring residue alignments; or the end of either sequence is reached. The BLAST algorithm parameters W, T, and X determine the sensitivity and speed of the alignment. The BLASTN program (for nucleotide sequences) uses as defaults a wordlength (W) of 11, an expectation (E) of 10, M=5, N=-4 and a comparison of both strands. For amino acid sequences, the BLASTP program uses as defaults a wordlength of 3, and expectation (E) of 10, and the BLOSUM62 scoring matrix (*see* Henikoff & Henikoff, *Proc. Natl. Acad. Sci. USA* 89:10915 (1989)) alignments (B) of 50, expectation (E) of 10, M=5, N=-4, and a comparison of both strands.

The BLAST algorithm also performs a statistical analysis of the similarity between two sequences (*see, e.g.*, Karlin & Altschul, *Proc. Nat'l. Acad. Sci. USA* 90:5873-5787 (1993)). One measure of similarity provided by the BLAST algorithm is the smallest sum probability (P(N)), which provides an indication of the probability by which a match between two nucleotide or amino acid sequences would occur by chance. For example, a nucleic acid is considered similar to a reference sequence if the smallest sum probability in a comparison of the test nucleic acid to the reference nucleic acid is less than about 0.2, more preferably less than about 0.01, and most preferably less than about 0.001.

An indication that two nucleic acid sequences or polypeptides are substantially identical is that the polypeptide encoded by the first nucleic acid is immunologically cross reactive with the antibodies raised against the polypeptide encoded by the second nucleic acid, as described below. Thus, a polypeptide is typically substantially identical to a second polypeptide, for example, where the two peptides differ only by conservative substitutions. Another indication that two nucleic acid sequences are substantially identical is that the two molecules or their complements hybridize to each other under stringent conditions, as described below. Yet another indication that two nucleic acid sequences are substantially identical is that the same primers can be used to amplify the sequences.

A "host cell" is a naturally occurring cell or a transformed cell that contains an expression vector and supports the replication or expression of the expression vector. Host cells may be cultured cells, explants, cells *in vivo*, and the like. Host cells may be prokaryotic cells such as *E. coli*, or eukaryotic cells such as yeast, insect, amphibian, or mammalian cells such as CHO, HeLa, and the like (see, *e.g.*, the American Type Culture Collection catalog or web site, www.atcc.org).

The terms "polypeptide," "peptide" and "protein" are used interchangeably herein to refer to a polymer of amino acid residues. The terms apply to amino acid polymers in which one or more amino acid residue is an artificial chemical mimetic of a corresponding naturally occurring amino acid, as well as to naturally occurring amino acid polymers and non-naturally occurring amino acid polymer.

The term "amino acid" refers to naturally occurring and synthetic amino acids, as well as amino acid analogs and amino acid mimetics that function in a manner similar to the naturally occurring amino acids. Naturally occurring amino acids are those encoded by the genetic code, as well as those amino acids that are later modified, e.g., hydroxyproline, γ-carboxyglutamate, and O-phosphoserine. Amino acid analogs refers to compounds that have the same basic chemical structure as a naturally occurring amino acid, i.e., an α carbon that is bound to a hydrogen, a carboxyl group, an amino group, and an R group, e.g., homoserine, norleucine, methionine sulfoxide, methionine methyl sulfonium. Such analogs have modified R groups (e.g., norleucine) or modified peptide backbones, but retain the same basic chemical structure as a naturally occurring amino acid. Amino acid mimetics refers to chemical compounds that have a structure that is different from the general chemical structure of an amino acid, but that functions in a manner similar to a naturally occurring amino acid.

Amino acids may be referred to herein by either their commonly known three letter symbols or by the one-letter symbols recommended by the IUPAC-IUB Biochemical Nomenclature Commission. Nucleotides, likewise, may be referred to by their commonly accepted single-letter codes.

"Conservatively modified variants" applies to both amino acid and nucleic acid sequences. With respect to particular nucleic acid sequences, conservatively modified variants refers to those nucleic acids which encode identical or essentially identical amino acid sequences, or where the nucleic acid does not encode an amino acid sequence, to essentially identical sequences. Because of the degeneracy of the genetic code, a large number of functionally identical nucleic acids encode any given protein. For instance, the codons GCA, GCC, GCG and GCU all encode the amino acid alanine. Thus, at every position where an alanine is specified by a codon, the codon can be altered to any of the corresponding codons described without altering the encoded polypeptide. Such nucleic acid variations are "silent variations," which are one species of conservatively modified variations. Every nucleic acid sequence herein which encodes a polypeptide also describes every possible silent variation of the nucleic acid. One of skill will recognize that each codon in a nucleic acid (except AUG, which is ordinarily the only codon for methionine, and TGG, which is ordinarily the only codon for tryptophan) can be modified to yield a functionally identical molecule. Accordingly, each silent variation of a nucleic acid which encodes a polypeptide is implicit in each described sequence with respect to the expression product, but not with respect to actual probe sequences.

As to amino acid sequences, one of skill will recognize that individual substitutions, deletions or additions to a nucleic acid, peptide, polypeptide, or protein sequence which alters, adds or deletes a single amino acid or a small percentage of amino acids in the encoded sequence is a "conservatively modified variant" where the alteration results in the substitution of an amino acid with a chemically similar amino acid. Conservative substitution tables providing functionally similar amino acids are well known in the art. Such conservatively modified variants are in addition to and do not exclude polymorphic variants, interspecies homologs, and alleles of the invention.

The following eight groups each contain amino acids that are conservative substitutions for one another:1) Alanine (A), Glycine (G); 2) Aspartic acid (D), Glutamic acid (E); 3) Asparagine (N), Glutamine (Q); 4) Arginine (R), Lysine (K); 5) Isoleucine (I), Leucine (L), Methionine (M), Valine (V); 6) Phenylalanine (F), Tyrosine (Y), Tryptophan (W); 7) Serine (S), Threonine (T); and 8) Cysteine (C), Methionine (M) (*see, e.g.*, Creighton, *Proteins* (1984)).

Macromolecular structures such as polypeptide structures can be described in terms of various levels of organization. For a general discussion of this organization, *see, e.g.*, Alberts *et al.*, *Molecular Biology of the Cell* (3rd ed., 1994) and Cantor and Schimmel, *Biophysical Chemistry Part I: The Conformation of Biological Macromolecules* (1980). "Primary structure" refers to the amino acid sequence of a particular peptide. "Secondary structure" refers to locally ordered, three dimensional structures within a polypeptide. These structures are commonly known as domains. Domains are portions of a polypeptide that form a compact unit of the polypeptide and are typically 25 to approximately 500 amino acids long. Typical domains are made up of sections of lesser organization such as stretches of β-sheet and α-helices. "Tertiary structure" refers to the complete three dimensional structure of a polypeptide monomer. "Quaternary structure" refers to the three dimensional structure formed, usually by the noncovalent association of independent tertiary units. Anisotropic terms are also known as energy terms.

A "label" or a "detectable moiety" is a composition detectable by spectroscopic, photochemical, biochemical, immunochemical, chemical, or other physical means. For example, useful labels include ^{32}P, fluorescent dyes, electron-dense reagents, enzymes (*e.g.*, as commonly used in an ELISA), biotin, digoxigenin, or haptens and proteins which can be made detectable, *e.g.*, by incorporating a radiolabel into the peptide or used to detect antibodies specifically reactive with the peptide.

An "effector" or "effector moiety" or "effector component" is a molecule that is bound (or linked, or conjugated), either covalently, through a linker or a chemical bond, or noncovalently, through ionic, van der Waals, electrostatic, or hydrogen bonds, to an antibody. The "effector" can be a variety of molecules including, for example, detection moieties including radioactive compounds, fluroescent compounds, an enzyme or substrate, tags such as epitope tags, a toxin; a chemotherapeutic agent; a lipase; an antibiotic; or a radioisotope emitting "hard" *e.g.*, beta radiation.

A "labeled nucleic acid probe or oligonucleotide" is one that is bound, either covalently, through a linker or a chemical bond, or noncovalently, through ionic, van der Waals, electrostatic, or hydrogen bonds to a label such that the presence of the probe may be detected by detecting the presence of the label bound to the probe. Alternatively, method using high affinity interactions may achieve the same results where one of a pair of binding partners binds to the other, *e.g.*, biotin, streptavidin.

As used herein a "nucleic acid probe or oligonucleotide" is defined as a nucleic acid capable of binding to a target nucleic acid of complementary sequence through one or more types of chemical bonds, usually through complementary base pairing, usually through hydrogen bond formation. As used herein, a probe may include natural (*i.e.*, A, G, C, or T) or modified bases (7-deazaguanosine, inosine, etc.). In addition, the bases in a probe may be joined by a linkage other than a phosphodiester bond, so long as it does not interfere with hybridization. Thus, for example, probes may be peptide nucleic acids in which the constituent bases are joined by peptide bonds rather than phosphodiester linkages. It will be understood by one of skill in the art that probes may bind target sequences lacking complete complementarity with the probe sequence depending upon the stringency of the hybridization conditions. The probes are preferably directly labeled as with isotopes, chromophores, lumiphores, chromogens, or indirectly labeled such as with biotin to which a streptavidin complex may later bind. By assaying for the presence or absence of the probe, one can detect the presence or absence of the select sequence or subsequence.

The term "recombinant" when used with reference, *e.g.*, to a cell, or nucleic acid, protein, or vector, indicates that the cell, nucleic acid, protein or vector, has been modified by the introduction of a heterologous nucleic acid or protein or the alteration of a native nucleic acid or protein, or that the cell is derived from a cell so modified. Thus, for example, recombinant cells express genes that are not found within the native (non-recombinant) form of the cell or express native genes that are otherwise abnormally expressed, under expressed or not expressed at all.

The term "heterologous" when used with reference to portions of a nucleic acid indicates that the nucleic acid comprises two or more subsequences that are not found in the same relationship to each other in nature. For instance, the nucleic acid is typically recombinantly produced, having two or more sequences from unrelated genes arranged to make a new functional nucleic acid, *e.g.*, a promoter from one source and a coding region from another source. Similarly, a heterologous protein indicates that the protein comprises two or more subsequences that are not found in the same relationship to each other in nature (*e.g.*, a fusion protein).

A "promoter" is defined as an array of nucleic acid control sequences that direct transcription of a nucleic acid. As used herein, a promoter includes necessary nucleic acid sequences near the start site of transcription, such as, in the case of a polymerase II type promoter, a TATA element. A promoter also optionally includes distal enhancer or repressor elements, which can be located as much as several thousand base pairs from the start site of transcription. A "constitutive" promoter is a promoter that is active under most environmental and developmental conditions. An "inducible" promoter is a promoter that is active under environmental or developmental regulation. The term "operably linked" refers to a functional linkage between a nucleic acid expression control sequence (such as a promoter, or array of transcription factor binding sites) and a second nucleic acid sequence, wherein the expression control sequence directs transcription of the nucleic acid corresponding to the second sequence.

An "expression vector" is a nucleic acid construct, generated recombinantly or synthetically, with a series of specified nucleic acid elements that permit transcription of a particular nucleic acid in a host cell. The expression vector can be part of a plasmid, virus, or nucleic acid fragment. Typically, the expression vector includes a nucleic acid to be transcribed operably linked to a promoter.

The phrase "selectively (or specifically) hybridizes to" refers to the binding, duplexing, or hybridizing of a molecule only to a particular nucleotide sequence under stringent hybridization conditions when that sequence is present in a complex mixture (e.g., total cellular or library DNA or RNA).

The phrase "stringent hybridization conditions" refers to conditions under which a probe will hybridize to its target subsequence, typically in a complex mixture of nucleic acids, but to no other sequences. Stringent conditions are sequence-dependent and will be different in different circumstances. Longer sequences hybridize specifically at higher temperatures. An extensive guide to the hybridization of nucleic acids is found in Tijssen, *Techniques in Biochemistry and Molecular Biology--Hybridization with Nucleic Probes*, "Overview of principles of hybridization and the strategy of nucleic acid assays" (1993). Generally, stringent conditions are selected to be about 5-10°C lower than the thermal melting point (T_m) for the specific sequence at a defined ionic strength pH. The T_m is the temperature (under defined ionic strength, pH, and nucleic concentration) at which 50% of the probes complementary to the target hybridize to the target sequence at equilibrium (as the target sequences are present in excess, at T_m, 50% of the probes are occupied at equilibrium). Stringent conditions will be those in which the salt concentration is less than about 1.0 M sodium ion, typically about 0.01 to 1.0 M sodium ion concentration (or other salts) at pH 7.0 to 8.3 and the temperature is at least about 30°C for short probes (e.g., 10 to 50 nucleotides) and at least about 60°C for long probes (e.g., greater than 50 nucleotides). Stringent conditions may also be achieved with the addition of destabilizing agents such as formamide. For selective or specific hybridization, a positive signal is at least two times background, preferably 10 times background hybridization. Exemplary stringent hybridization conditions can be as following: 50% formamide, 5x SSC, and 1% SDS, incubating at 42°C, or, 5x SSC, 1% SDS, incubating at 65°C, with wash in 0.2x SSC, and 0.1% SDS at 65°C. For PCR, a temperature of about 36°C is typical for low stringency amplification, although annealing temperatures may vary between about 32°C and 48°C depending on primer length. For high stringency PCR amplification, a temperature of about 62°C is typical, although high stringency annealing temperatures can range from about 50°C to about 65°C, depending on the primer length and specificity. Typical cycle conditions for both high and low stringency amplifications include a denaturation phase of 90°C - 95°C for 30 sec - 2 min., an annealing phase lasting 30 sec. - 2 min., and an extension phase of about 72°C for 1 - 2 min. Protocols and guidelines for low and high stringency amplification reactions are provided, *e.g.,* in Innis *et al.* (1990) *PCR Protocols, A Guide to Methods and Applications*, Academic Press, Inc. N.Y.).

Nucleic acids that do not hybridize to each other under stringent conditions are still substantially identical if the polypeptides which they encode are substantially identical. This occurs, for example, when a copy of a nucleic acid is created using the maximum codon degeneracy permitted by the genetic code. In such cases, the nucleic acids typically hybridize under moderately stringent hybridization conditions. Exemplary "moderately stringent hybridization conditions" include a hybridization in a buffer of 40% formamide, 1 M NaCl, 1% SDS at 37°C, and a wash in 1X SSC at 45°C. A positive hybridization is at least twice background. Those of ordinary skill will readily recognize that alternative hybridization and wash conditions can be utilized to provide conditions of similar stringency. Additional guidelines for determining hybridization parameters are provided in numerous reference, *e.g.*, and Current Protocols in Molecular Biology, ed. Ausubel, *et al*

The phrase "functional effects" in the context of assays for testing compounds that modulate activity of an angiogenesis protein includes the determination of a parameter that is indirectly or directly under the influence of the angiogenesis protein, *e.g.*, a functional, physical, or chemical effect, such as the ability to increase or decrease angiogenesis. It includes binding activity, the ability of cells to proliferate, expression in cells undergoing angiogenesis, and other characteristics of angiogenic cells. "Functional effects" include *in vitro*, *in vivo*, and *ex vivo* activities.

By "determining the functional effect" is meant assaying for a compound that increases or decreases a parameter that is indirectly or directly under the influence of an angiogenesis protein sequence, *e.g.*, functional, physical and chemical effects. Such functional effects can be measured by any means known to those skilled in the art, *e.g.*, changes in spectroscopic characteristics (*e.g.*, fluorescence, absorbance, refractive index), hydrodynamic (*e.g.*, shape), chromatographic, or solubility properties for the protein, measuring inducible markers or transcriptional activation of the angiogenesis protein; measuring binding activity or binding assays, *e.g.* binding to antibodies, and measuring cellular proliferation, particularly endothelial cell proliferation, cell viability, cell division especially of endothelial cells, lumen formation and capillary or vessel growth or formation. Determination of the functional effect of a compound on angiogenesis can also be performed using angiogenesis assays known to those of skill in the art such as an *in vitro* assays, *e.g.*, *in vitro* endothelial cell tube formation assays, and other assays such as the chick CAM assay, the mouse corneal assay, and assays that assess vascularization of an implanted tumor. The functional effects can be evaluated by many means known to those skilled in the art, *e.g.*, microscopy for quantitative or qualitative measures of alterations in morphological features, *e.g.*, tube or blood vessel formation, measurement of changes in RNA or protein levels for angiogenesis-associated sequences, measurement of RNA stability, identification of downstream or reporter gene expression (CAT, luciferase, β-gal, GFP and the like), *e.g.*, via chemiluminescence, fluorescence, colorimetric reactions, antibody binding, inducible markers, and ligand binding assays.

"Inhibitors", "activators", and "modulators" of angiogenic polynucleotide and polypeptide sequences are used to refer to activating, inhibitory, or modulating molecules identified using *in vitro* and *in vivo* assays of angiogenic polynucleotide and polypeptide sequences. Inhibitors are compounds that, *e.g.*, bind to, partially or totally block activity, decrease, prevent, delay activation, inactivate, desensitize, or down regulate the activity or expression of angiogenesis proteins, *e.g.*, antagonists. "Activators" are compounds that increase, open, activate, facilitate, enhance activation, sensitize, agonize, or up regulate angiogenesis protein activity. Inhibitors, activators, or modulators also include genetically modified versions of angiogenesis proteins, *e.g.*, versions with altered activity, as well as naturally occurring and synthetic ligands, antagonists, agonists, antibodies, small chemical molecules and the like. Such assays for inhibitors and activators include, *e.g.*, expressing the angiogenic protein *in vitro*, in cells, or cell membranes, applying putative modulator compounds, and then determining the functional effects on activity, as described above. Activators and inhibitors of angiogenesis can also be identified by incubating angiogenic cells with the test compound and determining increases or decreases in the expression of 1 or more angiogenesis proteins, *e.g.*, 1, 2, 3, 4, 5, 10, 15, 20, 25, 30, 40, 50 or more angiogenesis proteins, such as angiogenesis proteins comprising the sequences set out in Table 8.

Samples or assays comprising angiogenesis proteins that are treated with a potential activator, inhibitor, or modulator are compared to control samples without the inhibitor, activator, or modulator to examine the extent of inhibition. Control samples (untreated with inhibitors) are assigned a relative protein activity value of 100%. Inhibition of a polypeptide is achieved when the activity value relative to the control is about 80%, preferably 50%, more preferably 25-0%. Activation of an angiogenesis polypeptide is achieved when the activity value relative to the control (untreated with activators) is 110%, more preferably 150%, more preferably 200-500% (i.e., two to five fold higher relative to the control), more preferably 1000-3000% higher.

"Antibody" refers to a polypeptide comprising a framework region from an immunoglobulin gene or fragments thereof that specifically binds and recognizes an antigen. The recognized immunoglobulin genes include the kappa, lambda, alpha, gamma, delta, epsilon, and mu constant region genes, as well as the myriad immunoglobulin variable region genes. Light chains are classified as either kappa or lambda. Heavy chains are classified as gamma, mu, alpha, delta, or epsilon, which in turn define the immunoglobulin classes, IgG, IgM, IgA, IgD and IgE, respectively. Typically, the antigen-binding region of an antibody will be most critical in specificity and affinity of binding.

An exemplary immunoglobulin (antibody) structural unit comprises a tetramer. Each tetramer is composed of two identical pairs of polypeptide chains, each pair having one "light" (about 25 kD) and one "heavy" chain (about 50-70 kD). The N-terminus of each chain defines a variable region of about 100 to 110 or more amino acids primarily responsible for antigen recognition. The terms variable light chain (V_L) and variable heavy chain (V_H) refer to these light and heavy chains respectively.

Antibodies exist, *e.g.*, as intact immunoglobulins or as a number of well-characterized fragments produced by digestion with various peptidases. Thus, for example, pepsin digests an antibody below the disulfide linkages in the hinge region to produce $F(ab)'_2$, a dimer of Fab which itself is a light chain joined to V_H-C_H1 by a disulfide bond. The $F(ab)'_2$ may be reduced under mild conditions to break the disulfide linkage in the hinge region, thereby converting the $F(ab)'_2$ dimer into an Fab' monomer. The Fab' monomer is essentially Fab with part of the hinge region (*see Fundamental Immunology* (Paul ed., 3d ed. 1993). While various antibody fragments are defined in terms of the digestion of an intact antibody, one of skill will appreciate that such fragments may be synthesized *de novo* either chemically or by using recombinant DNA methodology. Thus, the term antibody, as used herein, also includes antibody fragments either produced by the modification of whole antibodies, or those synthesized *de novo* using recombinant DNA methodologies (*e.g.*, single chain Fv) or those identified using phage display libraries (*see, e.g.*, McCafferty *et al.*, *Nature* 348:552-554 (1990))

For preparation of antibodies, *e.g.*, recombinant, monoclonal, or polyclonal antibodies, many technique known in the art can be used (*see, e.g.*, Kohler & Milstein, *Nature* 256:495-497 (1975); Kozbor *et al.*, *Immunology Today* 4: 72 (1983); Cole *et al.*, pp. 77-96 in *Monoclonal Antibodies and Cancer Therapy*, Alan R. Liss, Inc. (1985); Coligan, *Current Protocols in Immunology* (1991); Harlow & Lane, *Antibodies, A Laboratory Manual* (1988); and Goding, *Monoclonal Antibodies: Principles and Practice* (2d ed. 1986)).

Techniques for the production of single chain antibodies (U.S. Patent 4,946,778) can be adapted to produce antibodies to polypeptides of this invention. Also, transgenic mice, or other organisms such as other mammals, may be used to express humanized antibodies. Alternatively, phage display technology can be used to identify antibodies and heteromeric Fab fragments that specifically bind to selected antigens (*see, e.g.*, McCafferty *et al.*, *Nature* 348:552-554 (1990); Marks *et al.*, *Biotechnology* 10:779-783 (1992)).

A "chimeric antibody" is an antibody molecule in which (a) the constant region, or a portion thereof, is altered, replaced or exchanged so that the antigen binding site (variable region) is linked to a constant region of a different or altered class, effector function and/or species, or an entirely different molecule which confers new properties to the chimeric antibody, *e.g.*, an enzyme, toxin, hormone, growth factor, drug, etc.; or (b) the variable region, or a portion thereof, is altered, replaced or exchanged with a variable region having a different or altered antigen specificity.

The detailed description of the invention includes discussion of the following aspects of the invention:

- Expression of angiogenesis-associated sequences
- Informatics
- Angiogenesis-associated sequences
- Detection of angiogenesis sequence for diagnostic and therapeutic applications
- Modulators of angiogenesis
- Methods of identifying variant angiogenesis-associated sequences
- Administration of pharmaceutical and vaccine compositions
- Kits for use in diagnostic and/or prognostic applications.

Expression of angiogenesis-associated sequences

In one aspect, the expression levels of genes are determined in different patient samples for which diagnosis information is desired, to provide expression profiles. An expression profile of a particular sample is essentially a "fingerprint" of the state of the sample; while two states may have any particular gene similarly expressed, the evaluation of a number of genes simultaneously allows the generation of a gene expression profile that is unique to the state of the cell. That is, normal tissue may be distinguished from AD tissue. By comparing expression profiles of tissue in known different angiogenesis states, information regarding which genes are important (including both up- and down-regulation of genes) in each of these states is obtained. The identification of sequences that are differentially expressed in angiogenic versus non-angiogenic tissue allows the use of this information in a number of ways. For example, a particular treatment regime may be evaluated: does a chemotherapeutic drug act to down-regulate angiogenesis, and thus tumor growth or recurrence, in a particular patient. Similarly, diagnosis and treatment outcomes may be done or confirmed by comparing patient samples with the known expression profiles. Angiogenic tissue can also be analyzed to determine the stage of angiogenesis in the tissue. Furthermore, these gene expression profiles (or individual genes) allow screening of drug candidates with an eye to mimicking or altering a particular expression profile; for example, screening can be done for drugs that suppress the angiogenic expression profile. This may be done by making biochips comprising sets of the important angiogenesis genes, which can then be used in these screens. These methods can also be done on the protein basis; that is, protein expression levels of the angiogenic proteins can be evaluated for diagnostic purposes or to screen candidate agents. In addition, the angiogenic nucleic acid sequences can be administered for gene therapy purposes, including the administration of antisense nucleic acids, or the angiogenic proteins (including antibodies and other modulators thereof) administered as therapeutic drugs.

Thus the present invention provides nucleic acid and protein sequences that are differentially expressed in angiogenesis, herein termed “angiogenesis sequences”. As outlined below, angiogenesis sequences include those that are up-regulated (i.e. expressed at a higher level) in disorders associated with angiogenesis, as well as those that are down-regulated (i.e. expressed at a lower level). In a preferred embodiment, the angiogenesis sequences are from humans; however, as will be appreciated by those in the art, angiogenesis sequences from other organisms may be useful in animal models of disease and drug evaluation; thus, other angiogenesis sequences are provided, from vertebrates, including mammals, including rodents (rats, mice, hamsters, guinea pigs, etc.), primates, farm animals (including sheep, goats, pigs, cows, horses, etc). Angiogenesis sequences from other organisms may be obtained using the techniques outlined below.

Angiogenesis sequences can include both nucleic acid and amino acid sequences. In a preferred embodiment, the angiogenesis sequences are recombinant nucleic acids. By the term "recombinant nucleic acid" herein is meant nucleic acid, originally formed *in vitro*, in general, by the manipulation of nucleic acid *e.g.*, using polymerases and endonucleases, in a form not normally found in nature. Thus an isolated nucleic acid, in a linear form, or an expression vector formed *in vitro* by ligating DNA molecules that are not normally joined, are both considered recombinant for the purposes of this invention. It is understood that once a recombinant nucleic acid is made and reintroduced into a host cell or organism, it will replicate non-recombinantly, *i.e.* using the *in vivo* cellular machinery of the host cell rather than *in vitro* manipulations; however, such nucleic acids, once produced recombinantly, although subsequently replicated non-recombinantly, are still considered recombinant for the purposes of the invention.

Similarly, a "recombinant protein" is a protein made using recombinant techniques, *i.e.* through the expression of a recombinant nucleic acid as depicted above. A recombinant protein is distinguished from naturally occurring protein by at least one or more characteristics. For example, the protein may be isolated or purified away from some or all of the proteins and compounds with which it is normally associated in its wild type host, and thus may be substantially pure. For example, an isolated protein is unaccompanied by at least some of the material with which it is normally associated in its natural state, preferably constituting at least about 0.5%, more preferably at least about 5% by weight of the total protein in a given sample. A substantially pure protein comprises at least about 75% by weight of the total protein, with at least about 80% being preferred, and at least about 90% being particularly preferred. The definition includes the production of an angiogenesis protein from one organism in a different organism or host cell. Alternatively, the protein may be made at a significantly higher concentration than is normally seen, through the use of an inducible promoter or high expression promoter, such that the protein is made at increased concentration levels. Alternatively, the protein may be in a form not normally found in nature, as in the addition of an epitope tag or amino acid substitutions, insertions and deletions, as discussed below.

In a preferred embodiment, the angiogenesis sequences are nucleic acids. As will be appreciated by those in the art and is more fully outlined below, angiogenesis sequences are useful in a variety of applications, including diagnostic applications, which will detect naturally occurring nucleic acids, as well as screening applications; for example, biochips comprising nucleic acid probes to the angiogenesis sequences can be generated. In the broadest sense, then, by “nucleic acid” or "oligonucleotide" or grammatical equivalents herein means at least two nucleotides covalently linked together. A nucleic acid of the present invention will generally contain phosphodiester bonds, although in some cases, nucleic acid analogs are included that may have alternate backbones, comprising, for example, phosphoramidate, phosphorothioate, phosphorodithioate, or O-methylphophoroamidite linkages (see Eckstein, Oligonucleotides and Analogues: A Practical Approach, Oxford University Press); and peptide nucleic acid backbones and linkages. Other analog nucleic acids include those with positive backbones; non-ionic backbones, and non-ribose backbones, including those described in U.S. Patent Nos. 5,235,033 and 5,034,506, and Chapters 6 and 7, ASC Symposium Series 580, "Carbohydrate Modifications in Antisense Research", Ed. Y.S. Sanghui and P. Dan Cook. Nucleic acids containing one or more carbocyclic sugars are also included within one definition of nucleic acids. Modifications of the ribose-phosphate backbone may be done for a variety of reasons, for example to increase the stability and half-life of such molecules in physiological environments or as probes on a biochip.

As will be appreciated by those in the art, nucleic acid analogs may find use in the present invention. In addition, mixtures of naturally occurring nucleic acids and analogs can be made; alternatively, mixtures of different nucleic acid analogs, and mixtures of naturally occurring nucleic acids and analogs may be made.

Particularly preferred are peptide nucleic acids (PNA) which includes peptide nucleic acid analogs. These backbones are substantially non-ionic under neutral conditions, in contrast to the highly charged phosphodiester backbone of naturally occurring nucleic acids. This results in two advantages. First, the PNA backbone exhibits improved hybridization kinetics. PNAs have larger changes in the melting temperature (Tm) for mismatched versus perfectly matched basepairs. DNA and RNA typically exhibit a 2-4°C drop in T_m for an internal mismatch. With the non-ionic PNA backbone, the drop is closer to 7-9°C. Similarly, due to their non-ionic nature, hybridization of the bases attached to these backbones is relatively insensitive to salt concentration. In addition, PNAs are not degraded by cellular enzymes, and thus can be more stable.

The nucleic acids may be single stranded or double stranded, as specified, or contain portions of both double stranded or single stranded sequence. As will be appreciated by those in the art, the depiction of a single strand also defines the sequence of the complementary strand; thus the sequences described herein also provide the complement of the sequence. The nucleic acid may be DNA, both genomic and cDNA, RNA or a hybrid, where the nucleic acid may contain combinations of deoxyribo- and ribo-nucleotides, and combinations of bases, including uracil, adenine, thymine, cytosine, guanine, inosine, xanthine hypoxanthine, isocytosine, isoguanine, etc. As used herein, the term "nucleoside" includes nucleotides and nucleoside and nucleotide analogs, and modified nucleosides such as amino modified nucleosides. In addition, "nucleoside" includes non-naturally occurring analog structures. Thus for example the individual units of a peptide nucleic acid, each containing a base, are referred to herein as a nucleoside.

An angiogenesis sequence can be initially identified by substantial nucleic acid and/or amino acid sequence homology to the angiogenesis sequences outlined herein. Such homology can be based upon the overall nucleic acid or amino acid sequence, and is generally determined as outlined below, using either homology programs or hybridization conditions.

For identifying angiogenesis-associated sequences, the angiogenesis screen typically includes comparing genes identified in a modification of an *in vitro* model of angiogenesis as described in Hiraoka, Cell 95:365 (1998) with genes identified in controls. Samples of normal tissue and tissue undergoing angiogenesis are applied to biochips comprising nucleic acid probes. The samples are first microdissected, if applicable, and treated as is known in the art for the preparation of mRNA. Suitable biochips are commercially available, for example from Affymetrix. Gene expression profiles as described herein are generated and the data analyzed.

In a preferred embodiment, the genes showing changes in expression as between normal and disease states are compared to genes expressed in other normal tissues, including, but not limited to lung, heart, brain, liver, breast, kidney, muscle, prostate, small intestine, large intestine, spleen, bone and placenta. In a preferred embodiment, those genes identified during the angiogenesis screen that are expressed in any significant amount in other tissues are removed from the profile, although in some embodiments, this is not necessary. That is, when screening for drugs, it is usually preferable that the target be disease specific, to minimize possible side effects.

In a preferred embodiment, angiogenesis sequences are those that are up-regulated in angiogenesis disorders; that is, the expression of these genes is higher in the disease tissue as compared to normal tissue. "Up-regulation" as used herein means at least about a two-fold change, preferably at least about a three fold change, with at least about five-fold or higher being preferred. All accession numbers herein are for the GenBank sequence database and the sequences of the accession numbers are hereby expressly incorporated by reference. GenBank is known in the art, see, *e.g.*, Benson, DA, et al., Nucleic Acids Research 26:1-7 (1998) and http://www.ncbi.nlm.nih.gov/. Sequences are also avialable in other databases, *e.g.*, European Molecular Biology Laboratory (EMBL) and DNA Database of Japan (DDBJ). In addition, most preferred genes were found to be expressed in a limited amount or not at all in heart, brain, lung, liver, breast, kidney, prostate, small intestine and spleen.

In another preferred embodiment, angiogenesis sequences are those that are down-regulated in the angiogenesis disorder; that is, the expression of these genes is lower in angiogenic tissue as compared to normal tissue. "Down-regulation" as used herein means at least about a two-fold change, preferably at least about a three fold change, with at least about five-fold or higher being preferred.

Angiogenesis sequences according to the invention may be classified into discrete clusters of sequences based on common expression profiles of the sequences. Expression levels of angiogenesis sequences may increase or decrease as a function of time in a manner that correlates with the induction of angiogenesis. Alternatively, expression levels of angiogenesis sequences may both increase and decrease as a function of time. For example, expression levels of some angiogenesis sequences are temporarily induced or diminished during the switch to the angiogenesis phenotype, followed by a return to baseline expression levels. Tables 1-8 provides genes, the mRNA expression of which varies as a function of time in angiogenesis tissue when compared to normal tissue.

In a particularly preferred embodiment, angiogenesis sequences are those that are induced for a period of time, typically by positive angiogenic factors, followed by a return to the baseline levels. Sequences that are temporarily induced provide a means to target angiogenesis tissue, for example neovascularized tumors, at a particular stage of angiogenesis, while avoiding rapidly growing tissue that require perpetual vascularization. Such positive angiogenic factors include αFGF, βFGF, VEGF, angiogenin and the like.

Induced angiogenesis sequences also are further categorized with respect to the timing of induction. For example, some angiogenesis genes may be induced at an early time period, such as within 10 minutes of the induction of angiogenesis. Others may be induced later, such as between 5 and 60 minutes, while yet others may be induced for a time period of about two hours or more followed by a return to baseline expression levels.

In another preferred embodiment are angiogenesis sequences that are inhibited or reduced as a function of time followed by a return to "normal" expression levels. Inhibitors of angiogenesis are examples of molecules that have this expression profile. These sequences also can be further divided into groups depending on the timing of diminished expression. For example, some molecules may display reduced expression within 10 minutes of the induction of angiogenesis. Others may be diminished later, such as between 5 and 60 minutes, while others may be diminished for a time period of about two hours or more followed by a return to baseline. Examples of such negative angiogenic factors include thrombospondin and endostatin to name a few.

In yet another preferred embodiment are angiogenesis sequences that are induced for prolonged periods. These sequences are typically associated with induction of angiogenesis and may participate in induction and/or maintenance of the angiogenesis phenotype.

In another preferred embodiment are angiogenesis sequences, the expression of which is reduced or diminished for prolonged periods in angiogenic tissue. These sequences are typically angiogenesis inhibitors and their diminution is correlated with an increase in angiogenesis.

Informatics

The ability to identify genes that undergo changes in expression with time during angiogenesis can additionally provide high-resolution, high-sensitivity datasets which can be used in the areas of diagnostics, therapeutics, drug development, biosensor development, and other related areas. For example, the expression profiles can be used in diagnostic or prognostic evaluation of patients with angiogenesis-associated disease. Or as another example, subcellular toxicological information can be generated to better direct drug structure and activity correlation (*see*, Anderson, L., "Pharmaceutical Proteomics: Targets, Mechanism, and Function," paper presented at the IBC Proteomics conference, Coronado, CA (June 11-12, 1998)). Subcellular toxicological information can also be utilized in a biological sensor device to predict the likely toxicological effect of chemical exposures and likely tolerable exposure thresholds (*see*, U.S. Patent No. 5,811,231). Similar advantages accrue from datasets relevant to other biomolecules and bioactive agents (*e.g.*, nucleic acids, saccharides, lipids, drugs, and the like).

Thus, in another embodiment, the present invention provides a database that includes at least one set of data assay data. The data contained in the database is acquired , *e.g.*, using array analysis either singly or in a library format. The database can be in substantially any form in which data can be maintained and transmitted, but is preferably an electronic database. The electronic database of the invention can be maintained on any electronic device allowing for the storage of and access to the database, such as a personal computer, but is preferably distributed on a wide area network, such as the World Wide Web.

The focus of the present section on databases that include peptide sequence data is for clarity of illustration only. It will be apparent to those of skill in the art that similar databases can be assembled for any assay data acquired using an assay of the invention.

The compositions and methods for identifying and/or quantitating the relative and/or absolute abundance of a variety of molecular and macromolecular species from a biological sample undergoing angiogenesis, *i.e.,* the identification of angiogenesis-associated sequences described herein, provide an abundance of information, which can be correlated with pathological conditions, predisposition to disease, drug testing, therapeutic monitoring, gene-disease causal linkages, identification of correlates of immunity and physiological status, among others. Although the data generated from the assays of the invention is suited for manual review and analysis, in a preferred embodiment, prior data processing using high-speed computers is utilized.

An array of methods for indexing and retrieving biomolecular information is known in the art. For example, U.S. Patents 6,023,659 and 5,966,712 disclose a relational database system for storing biomolecular sequence information in a manner that allows sequences to be catalogued and searched according to one or more protein function hierarchies. U.S. Patent 5,953,727 discloses a relational database having sequence records containing information in a format that allows a collection of partial-length DNA sequences to be catalogued and searched according to association with one or more sequencing projects for obtaining full-length sequences from the collection of partial length sequences. U.S. Patent 5,706,498 discloses a gene database retrieval system for making a retrieval of a gene sequence similar to a sequence data item in a gene database based on the degree of similarity between a key sequence and a target sequence. U.S. Patent 5,538,897 discloses a method using mass spectroscopy fragmentation patterns of peptides to identify amino acid sequences in computer databases by comparison of predicted mass spectra with experimentally-derived mass spectra using a closeness-of-fit measure. U.S. Patent 5,926,818 discloses a multi-dimensional database comprising a functionality for multi-dimensional data analysis described as on-line analytical processing (OLAP), which entails the consolidation of projected and actual data according to more than one consolidation path or dimension. U.S. Patent 5,295,261 reports a hybrid database structure in which the fields of each database record are divided into two classes, navigational and informational data, with navigational fields stored in a hierarchical topological map which can be viewed as a tree structure or as the merger of two or more such tree structures.

The present invention provides a computer database comprising a computer and software for storing in computer-retrievable form assay data records cross-tabulated, *e.g.*, with data specifying the source of the target-containing sample from which each sequence specificity record was obtained.

In an exemplary embodiment, at least one of the sources of target-containing sample is from a control tissue sample known to be free of pathological disorders. In a variation, at least one of the sources is a known pathological tissue specimen, *e.g.*, a neoplastic lesion or another tissue specimen to be analyzed for angiogenesis. In another variation, the assay records cross-tabulate one or more of the following parameters for each target species in a sample: (1) a unique identification code, which can include, *e.g.*, a target molecular structure and/or characteristic separation coordinate (*e.g.*, electrophoretic coordinates); (2) sample source; and (3) absolute and/or relative quantity of the target species present in the sample.

The invention also provides for the storage and retrieval of a collection of target data in a computer data storage apparatus, which can include magnetic disks, optical disks, magneto-optical disks, DRAM, SRAM, SGRAM, SDRAM, RDRAM, DDR RAM, magnetic bubble memory devices, and other data storage devices, including CPU registers and on-CPU data storage arrays. Typically, the target data records are stored as a bit pattern in an array of magnetic domains on a magnetizable medium or as an array of charge states or transistor gate states, such as an array of cells in a DRAM device (*e.g.*, each cell comprised of a transistor and a charge storage area, which may be on the transistor). In one embodiment, the invention provides such storage devices, and computer systems built therewith, comprising a bit pattern encoding a protein expression fingerprint record comprising unique identifiers for at least 10 target data records cross-tabulated with target source.

When the target is a peptide or nucleic acid, the invention preferably provides a method for identifying related peptide or nucleic acid sequences, comprising performing a computerized comparison between a peptide or nucleic acid sequence assay record stored in or retrieved from a computer storage device or database and at least one other sequence. The comparison can include a sequence analysis or comparison algorithm or computer program embodiment thereof (*e.g.*, FASTA, TFASTA, GAP, BESTFIT) and/or the comparison may be of the relative amount of a peptide or nucleic acid sequence in a pool of sequences determined from a polypeptide or nucleic acid sample of a specimen.

The invention also preferably provides a magnetic disk, such as an IBM-compatible (DOS, Windows, Windows95/98/2000, Windows NT, OS/2) or other format (*e.g.*, Linux, SunOS, Solaris, AIX, SCO Unix, VMS, MV, Macintosh, *etc.*) floppy diskette or hard (fixed, Winchester) disk drive, comprising a bit pattern encoding data from an assay of the invention in a file format suitable for retrieval and processing in a computerized sequence analysis, comparison, or relative quantitation method.

The invention also provides a network, comprising a plurality of computing devices linked via a data link, such as an Ethernet cable (coax or 10BaseT), telephone line, ISDN line, wireless network, optical fiber, or other suitable signal tranmission medium, whereby at least one network device (*e.g.*, computer, disk array, *etc.*) comprises a pattern of magnetic domains (*e.g.*, magnetic disk) and/or charge domains (*e.g.*, an array of DRAM cells) composing a bit pattern encoding data acquired from an assay of the invention.

The invention also provides a method for transmitting assay data that includes generating an electronic signal on an electronic communications device, such as a modem, ISDN terminal adapter, DSL, cable modem, ATM switch, or the like, wherein the signal includes (in native or encrypted format) a bit pattern encoding data from an assay or a database comprising a plurality of assay results obtained by the method of the invention.

In a preferred embodiment, the invention provides a computer system for comparing a query target to a database containing an array of data structures, such as an assay result obtained by the method of the invention, and ranking database targets based on the degree of identity and gap weight to the target data. A central processor is preferably initialized to load and execute the computer program for alignment and/or comparison of the assay results. Data for a query target is entered into the central processor via an I/O device. Execution of the computer program results in the central processor retrieving the assay data from the data file, which comprises a binary description of an assay result.

The target data or record and the computer program can be transferred to secondary memory, which is typically random access memory (*e.g.*, DRAM, SRAM, SGRAM, or SDRAM). Targets are ranked according to the degree of correspondence between a selected assay characteristic (*e.g.*, binding to a selected affinity moiety) and the same characteristic of the query target and results are output via an I/O device. For example, a central processor can be a conventional computer (*e.g.*, Intel Pentium, PowerPC, Alpha, PA-8000, SPARC, MIPS 4400, MIPS 10000, VAX, *etc.*); a program can be a commercial or public domain molecular biology software package (*e.g.*, UWGCG Sequence Analysis Software, Darwin); a data file can be an optical or magnetic disk, a data server, a memory device (*e.g.*, DRAM, SRAM, SGRAM, SDRAM, EPROM, bubble memory, flash memory, *etc.*); an I/O device can be a terminal comprising a video display and a keyboard, a modem, an ISDN terminal adapter, an Ethernet port, a punched card reader, a magnetic strip reader, or other suitable I/O device.

The invention also preferably provides the use of a computer system, such as that described above, which comprises: (1) a computer; (2) a stored bit pattern encoding a collection of peptide sequence specificity records obtained by the methods of the invention, which may be stored in the computer; (3) a comparison target, such as a query target; and (4) a program for alignment and comparison, typically with rank-ordering of comparison results on the basis of computed similarity values.

Angiogenesis-associated sequences

Angiogenesis proteins of the present invention may be classified as secreted proteins, transmembrane proteins or intracellular proteins. In one embodiment,the angiogenesis protein is an intracellular protein. Intracellular proteins may be found in the cytoplasm and/or in the nucleus or associated with the intracellular side of the plasma membrane. Intracellular proteins are involved in all aspects of cellular function and replication (including, *e.g.*, signaling pathways); aberrant expression of such proteins often results in unregulated or disregulated cellular processes (see, *e.g.*, Molecular Biology of the Cell, 3rd Edition, Alberts, Ed., Garland Pub., 1994). For example, many intracellular proteins have enzymatic activity such as protein kinase activity, protein phosphatase activity, protease activity, nucleotide cyclase activity, polymerase activity and the like. Intracellular proteins also serve as docking proteins that are involved in organizing complexes of proteins, or targeting proteins to various subcellular localizations, and are involved in maintaining the structural integrity of organelles.

An increasingly appreciated concept in characterizing proteins is the presence in the proteins of one or more motifs for which defined functions have been attributed. In addition to the highly conserved sequences found in the enzymatic domain of proteins, highly conserved sequences have been identified in proteins that are involved in protein-protein interaction. For example, Src-homology-2 (SH2) domains bind tyrosine-phosphorylated targets in a sequence dependent manner. PTB domains, which are distinct from SH2 domains, also bind tyrosine phosphorylated targets. SH3 domains bind to proline-rich targets. In addition, PH domains, tetratricopeptide repeats and WD domains to name only a few, have been shown to mediate protein-protein interactions. Some of these may also be involved in binding to phospholipids or other second messengers. As will be appreciated by one of ordinary skill in the art, these motifs can be identified on the basis of primary sequence; thus, an analysis of the sequence of proteins may provide insight into both the enzymatic potential of the molecule and/or molecules with which the protein may associate.

In another embodiment, the angiogenesis sequences are transmembrane proteins. Transmembrane proteins are molecules that span a phospholipid bilayer of a cell. They may have an intracellular domain, an extracellular domain, or both. The intracellular domains of such proteins may have a number of functions including those already described for intracellular proteins. For example, the intracellular domain may have enzymatic activity and/or may serve as a binding site for additional proteins. Frequently the intracellular domain of transmembrane proteins serves both roles. For example certain receptor tyrosine kinases have both protein kinase activity and SH2 domains. In addition, autophosphorylation of tyrosines on the receptor molecule itself, creates binding sites for additional SH2 domain containing proteins.

Transmembrane proteins may contain from one to many transmembrane domains. For example, receptor tyrosine kinases, certain cytokine receptors, receptor guanylyl cyclases and receptor serine/threonine protein kinases contain a single transmembrane domain. However, various other proteins including channels and adenylyl cyclases contain numerous transmembrane domains. Many important cell surface receptors such as G protein coupled receptors (GPCRs) are classified as "seven transmembrane domain" proteins, as they contain 7 membrane spanning regions. Characteristics of transmembrane domains include approximately 20 consecutive hydrophobic amino acids that may be followed or flanked by charged amino acids. Therefore, upon analysis of the amino acid sequence of a particular protein, the localization and number of transmembrane domains within the protein may be predicted (see, *e.g.* PSORT web site http://psort.nibb.ac.jp/).

The extracellular domains of transmembrane proteins are diverse; however, conserved motifs are found repeatedly among various extracellular domains. Conserved structure and/or functions have been ascribed to different extracellular motifs. Many extracellular domains are involved in binding to other molecules. In one aspect, extracellular domains are found on receptors. Factors that bind the receptor domain include circulating ligands, which may be peptides, proteins, or small molecules such as adenosine and the like. For example, growth factors such as EGF, FGF and PDGF are circulating growth factors that bind to their cognate receptors to initiate a variety of cellular responses. Other factors include cytokines, mitogenic factors, neurotrophic factors and the like. Extracellular domains also bind to cell-associated molecules. In this respect, they mediate cell-cell interactions. Cell-associated ligands can be tethered to the cell for example via a glycosylphosphatidylinositol

(GPI) anchor, or may themselves be transmembrane proteins. Extracellular domains also associate with the extracellular matrix and contribute to the maintenance of the cell structure.

Angiogenesis proteins that are transmembrane are particularly preferred in the present invention as they are readily accessible targets for immunotherapeutics, as are described herein. In addition, as outlined below, transmembrane proteins can be also useful in imaging modalities. Antibodies may be used to label such readily accessible proteins *in situ*. Alternatively, antibodies can also label intracellular proteins, in which case samples are typically permeablized to provide acess to intracellular proteins.

It will also be appreciated by those in the art that a transmembrane protein can be made soluble by removing transmembrane sequences, for example through recombinant methods. Furthermore, transmembrane proteins that have been made soluble can be made to be secreted through recombinant means by adding an appropriate signal sequence.

In another embodiment, the angiogenesis proteins are secreted proteins; the secretion of which can be either constitutive or regulated. These proteins have a signal peptide or signal sequence that targets the molecule to the secretory pathway. Secreted proteins are involved in numerous physiological events; by virtue of their circulating nature, they serve to transmit signals to various other cell types. The secreted protein may function in an autocrine manner (acting on the cell that secreted the factor), a paracrine manner (acting on cells in close proximity to the cell that secreted the factor) or an endocrine manner (acting on cells at a distance). Thus secreted molecules find use in modulating or altering numerous aspects of physiology. Angiogenesis proteins that are secreted proteins are particularly preferred in the present invention as they serve as good targets for diagnostic markers, *e.g.*, for blood or serum tests.

An angiogenesis sequence is typically initially identified by substantial nucleic acid and/or amino acid sequence homology or linkage to the angiogenesis sequences outlined herein. Such homology can be based upon the overall nucleic acid or amino acid sequence, and is generally determined as outlined below, using either homology programs or hybridization conditions. Typically, linked sequences on a mRNA are found on the same molecule.

As detailed in the definitions, percent identity can be determined using an algorithm such as BLAST. A preferred method utilizes the BLASTN module of WU-BLAST-2 set to the default parameters, with overlap span and overlap fraction set to 1 and 0.125, respectively. The alignment may include the introduction of gaps in the sequences to be aligned. In addition, for sequences which contain either more or fewer nucleotides than those of the nucleic acids of the figures, it is understood that the percentage of homology will be determined based on the number of homologous nucleosides in relation to the total number of nucleosides. Thus, for example, homology of sequences shorter than those of the sequences identified herein and as discussed below, will be determined using the number of nucleosides in the shorter sequence.

In one embodiment, the nucleic acid homology is determined through hybridization studies. Thus, *e.g.*, nucleic acids which hybridize under high stringency to a nucleic acid of Tables 1-8 , or its complement, or is also found on naturally occurring mRNAs is considered an angiogenesis sequence. In another embodiment, less stringent hybridization conditions are used; for example, moderate or low stringency conditions may be used, as are known in the art; see Ausubel, *supra*, and Tijssen, *supra*.

In addition, the angiogenesis nucleic acid sequences of the invention, e.g, the sequence in Tables 1-8 , are fragments of larger genes, *i.e.* they are nucleic acid segments. "Genes" in this context includes coding regions, non-coding regions, and mixtures of coding and non-coding regions. Accordingly, as will be appreciated by those in the art, using the sequences provided herein, extended sequences, in either direction, of the angiogenesis genes can be obtained, using techniques well known in the art for cloning either longer sequences or the full length sequences; see Ausubel, *et al.*, *supra*. Much can be done by informatics and many sequences can be clustered to include multiple sequences, *e.g.*, systems such as UniGene (see, http://www.ncbi.nlm.nih.gov/UniGene/).

Once the angiogenesis nucleic acid is identified, it can be cloned and, if necessary, its constituent parts recombined to form the entire angiogenesis nucleic acid coding regions or the entire mRNA sequence. Once isolated from its natural source, *e.g.*, contained within a plasmid or other vector or excised therefrom as a linear nucleic acid segment, the recombinant angiogenesis nucleic acid can be further-used as a probe to identify and isolate other angiogenesis nucleic acids, for example extended coding regions. It can also be used as a "precursor" nucleic acid to make modified or variant angiogenesis nucleic acids and proteins.

The angiogenesis nucleic acids of the present invention are used in several ways. In a first embodiment, nucleic acid probes to the angiogenesis nucleic acids are made and attached to biochips to be used in screening and diagnostic methods, as outlined below, or for administration, for example for gene therapy, vaccine, and/or antisense applications. Alternatively, the angiogenesis nucleic acids that include coding regions of angiogenesis proteins can be put into expression vectors for the expression of angiogenesis proteins, again for screening purposes or for administration to a patient.

In a preferred embodiment, nucleic acid probes to angiogenesis nucleic acids (both the nucleic acid sequences outlined in the figures and/or the complements thereof) are made. The nucleic acid probes attached to the biochip are designed to be substantially complementary to the angiogenesis nucleic acids, *i.e.* the target sequence (either the target sequence of the sample or to other probe sequences, for example in sandwich assays), such that hybridization of the target sequence and the probes of the present invention occurs. As outlined below, this complementarity need not be perfect; there may be any number of base pair mismatches which will interfere with hybridization between the target sequence and the single stranded nucleic acids of the present invention. However, if the number of mutations is so great that no hybridization can occur under even the least stringent of hybridization conditions, the sequence is not a complementary target sequence. Thus, by "substantially complementary" herein is meant that the probes are sufficiently complementary to the target sequences to hybridize under normal reaction conditions, particularly high stringency conditions, as outlined herein.

A nucleic acid probe is generally single stranded but can be partially single and partially double stranded. The strandedness of the probe is dictated by the structure, composition, and properties of the target sequence. In general, the nucleic acid probes range from about 8 to about 100 bases long, with from about 10 to about 80 bases being preferred, and from about 30 to about 50 bases being particularly preferred. That is, generally whole genes are not used. In some embodiments, much longer nucleic acids can be used, up to hundreds of bases.

In a preferred embodiment, more than one probe per sequence is used, with either overlapping probes or probes to different sections of the target being used. That is, two, three, four or more probes, with three being preferred, are used to build in a redundancy for a particular target. The probes can be overlapping (*i.e.* have some sequence in common), or separate. In some cases, PCR primers may be used to amplify signal for higher sensitivity.

As will be appreciated by those in the art, nucleic acids can be attached or immobilized to a solid support in a wide variety of ways. By "immobilized" and grammatical equivalents herein is meant the association or binding between the nucleic acid probe and the solid support is sufficient to be stable under the conditions of binding, washing, analysis, and removal as outlined below. The binding can typically be covalent or non-covalent. By "non-covalent binding" and grammatical equivalents herein is meant one or more of electrostatic, hydrophilic, and hydrophobic interactions. Included in non-covalent binding is the covalent attachment of a molecule, such as, streptavidin to the support and the non-covalent binding of the biotinylated probe to the streptavidin. By "covalent binding" and grammatical equivalents herein is meant that the two moieties, the solid support and the probe, are attached by at least one bond, including sigma bonds, pi bonds and coordination bonds. Covalent bonds can be formed directly between the probe and the solid support or can be formed by a cross linker or by inclusion of a specific reactive group on either the solid support or the probe or both molecules. Immobilization may also involve a combination of covalent and non-covalent interactions.

In general, the probes are attached to the biochip in a wide variety of ways, as will be appreciated by those in the art. As described herein, the nucleic acids can either be synthesized first, with subsequent attachment to the biochip, or can be directly synthesized on the biochip.

The biochip comprises a suitable solid substrate. By "substrate" or "solid support" or other grammatical equivalents herein is meant a material that can be modified to contain discrete individual sites appropriate for the attachment or association of the nucleic acid probes and is amenable to at least one detection method. As will be appreciated by those in the art, the number of possible substrates are very large, and include, but are not limited to, glass and modified or functionalized glass, plastics (including acrylics, polystyrene and copolymers of styrene and other materials, polypropylene, polyethylene, polybutylene, polyurethanes, TeflonJ, etc.), polysaccharides, nylon or nitrocellulose, resins, silica or silica-based materials including silicon and modified silicon, carbon, metals, inorganic glasses, plastics, etc. In general, the substrates allow optical detection and do not appreciably fluorescese. A preferred substrate is described in copending application entitled Reusable Low Fluorescent Plastic Biochip, U.S. Application Serial No. 09/270,214, filed March 15, 1999, herein incorporated by reference in its entirety.

Generally the substrate is planar, although as will be appreciated by those in the art, other configurations of substrates may be used as well. For example, the probes may be placed on the inside surface of a tube, for flow-through sample analysis to minimize sample volume. Similarly, the substrate may be flexible, such as a flexible foam, including closed cell foams made of particular plastics.

In a preferred embodiment, the surface of the biochip and the probe may be derivatized with chemical functional groups for subsequent attachment of the two. Thus, for example, the biochip is derivatized with a chemical functional group including, but not limited to, amino groups, carboxy groups, oxo groups and thiol groups, with amino groups being particularly preferred. Using these functional groups, the probes can be attached using functional groups on the probes. For example, nucleic acids containing amino groups can be attached to surfaces comprising amino groups, for example using linkers as are known in the art; for example, homo-or hetero-bifunctional linkers as are well known (see 1994 Pierce Chemical Company catalog, technical section on cross-linkers, pages 155-200, incorporated herein by reference). In addition, in some cases, additional linkers, such as alkyl groups (including substituted and heteroalkyl groups) may be used.

In this embodiment, oligonucleotides are synthesized as is known in the art, and then attached to the surface of the solid support. As will be appreciated by those skilled in the art, either the 5' or 3' terminus may be attached to the solid support, or attachment may be via an internal nucleoside.

In another embodiment, the immobilization to the solid support may be very strong, yet non-covalent. For example, biotinylated oligonucleotides can be made, which bind to surfaces covalently coated with streptavidin, resulting in attachment.

Alternatively, the oligonucleotides may be synthesized on the surface, as is known in the art. For example, photoactivation techniques utilizing photopolymerization compounds and techniques are used. In a preferred embodiment, the nucleic acids can be synthesized in situ, using well known photolithographic techniques, such as those described in WO 95/25116; WO 95/35505; U.S. Patent Nos. 5,700,637 and 5,445,934; and references cited within, all of which are expressly incorporated by reference; these methods of attachment form the basis of the Affimetrix GeneChip™ technology.

Often, amplification-based assays are performed to measure the expression level of angiogenesis-associated sequences. These assays are typically performed in conjunction with reverse transcription. In such assays, an angiogenesis-associated nucleic acid sequence acts as a template in an amplification reaction (*e.g.,* Polymerase Chain Reaction, or PCR). In a quantitative amplification, the amount of amplification product will be proportional to the amount of template in the original sample. Comparison to appropriate controls provides a measure of the amount of angiogenesis-associated RNA. Methods of quantitative amplification are well known to those of skill in the art. Detailed protocols for quantitative PCR are provided, *e.g.,* in Innis *et al.* (1990) *PCR Protocols, A Guide to Methods and Applications*, Academic Press, Inc. N.Y.).

In some embodiments, a TaqMan based assay is used to measure expression. TaqMan based assays use a fluorogenic oligonucleotide probe that contains a 5' fluorescent dye and a 3' quenching agent. The probe hybridizes to a PCR product, but cannot itself be extended due to a blocking agent at the 3' end. When the PCR product is amplified in subsequent cycles, the 5' nuclease activity of the polymerase, *e.g.*, AmpliTaq, results in the cleavage of the TaqMan probe. This cleavage separates the 5' fluorescent dye and the 3' quenching agent, thereby resulting in an increase in fluorescence as a function of amplification (*see*, for example, literature provided by Perkin-Elmer, *e.g.*, www2.perkin-elmer.com).

Other suitable amplification methods include, but are not limited to, ligase chain reaction (LCR) (*see*, Wu and Wallace (1989) *Genomics* 4: 560, Landegren *et al.* (1988) *Science* 241: 1077, and Barringer *et al.* (1990) *Gene* 89: 117), transcription amplification (Kwoh *et al.* (1989) *Proc. Natl. Acad. Sci. USA* 86: 1173), self-sustained sequence replication (Guatelli *et al.* (1990) *Proc. Nat. Acad. Sci. USA* 87: 1874), dot PCR, and linker adapter PCR, *etc.*

In a preferred embodiment, angiogenesis nucleic acids, *e.g.*, encoding angiogenesis proteins are used to make a variety of expression vectors to express angiogenesis proteins which can then be used in screening assays, as described below. Expression vectors and recombinant DNA technology are well known to those of skill in the art (*see*, *e.g.*, Ausubel, *supra*, and Gene Expression Systems, Fernandez & Hoeffler, Eds, Academic Press, 1999) and are used to express proteins. The expression vectors may be either self-replicating extrachromosomal vectors or vectors which integrate into a host genome. Generally, these expression vectors include transcriptional and translational regulatory nucleic acid operably linked to the nucleic acid encoding the angiogenesis protein. The term "control sequences" refers to DNA sequences used for the expression of an operably linked coding sequence in a particular host organism. Control sequences that are suitable for prokaryotes, for example, include a promoter, optionally an operator sequence, and a ribosome binding site. Eukaryotic cells are known to utilize promoters, polyadenylation signals, and enhancers.

Nucleic acid is "operably linked" when it is placed into a functional relationship with another nucleic acid sequence. For example, DNA for a presequence or secretory leader is operably linked to DNA for a polypeptide if it is expressed as a preprotein that participates in the secretion of the polypeptide; a promoter or enhancer is operably linked to a coding sequence if it affects the transcription of the sequence; or a ribosome binding site is operably linked to a coding sequence if it is positioned so as to facilitate translation. Generally, "operably linked" means that the DNA sequences being linked are contiguous, and, in the case of a secretory leader, contiguous and in reading phase. However, enhancers do not have to be contiguous. Linking is typically accomplished by ligation at convenient restriction sites. If such sites do not exist, synthetic oligonucleotide adaptors or linkers are used in accordance with conventional practice. Transcriptional and translational regulatory nucleic acid will generally be appropriate to the host cell used to express the angiogenesis protein; for example, transcriptional and translational regulatory nucleic acid sequences from Bacillus are preferably used to express the angiogenesis protein in Bacillus. Numerous types of appropriate expression vectors, and suitable regulatory sequences are known in the art for a variety of host cells.

In general, transcriptional and translational regulatory sequences may include, but are not limited to, promoter sequences, ribosomal binding sites, transcriptional start and stop sequences, translational start and stop sequences, and enhancer or activator sequences. In a preferred embodiment, the regulatory sequences include a promoter and transcriptional start and stop sequences.

Promoter sequences encode either constitutive or inducible promoters. The promoters may be either naturally occurring promoters or hybrid promoters. Hybrid promoters, which combine elements of more than one promoter, are also known in the art, and are useful in the present invention.

In addition, an expression vector may comprise additional elements. For example, the expression vector may have two replication systems, thus allowing it to be maintained in two organisms, for example in mammalian or insect cells for expression and in a procaryotic host for cloning and amplification. Furthermore, for integrating expression vectors, the expression vector contains at least one sequence homologous to the host cell genome, and preferably two homologous sequences which flank the expression construct. The integrating vector may be directed to a specific locus in the host cell by selecting the appropriate homologous sequence for inclusion in the vector. Constructs for integrating vectors are well known in the art (*e.g.*, Fernandez & Hoeffler, *supra*). See also Kitamura, et al. (1995) PNAS 92:9146-9150.

In addition, in a preferred embodiment, the expression vector contains a selectable marker gene to allow the selection of transformed host cells. Selection genes are well known in the art and will vary with the host cell used.

The angiogenesis proteins of the present invention are produced by culturing a host cell transformed with an expression vector containing nucleic acid encoding an angiogenesis protein, under the appropriate conditions to induce or cause expression of the angiogenesis protein. Conditions appropriate for angiogenesis protein expression will vary with the choice of the expression vector and the host cell, and will be easily ascertained by one skilled in the art through routine experimentation or optimization. For example, the use of constitutive promoters in the expression vector will require optimizing the growth and proliferation of the host cell, while the use of an inducible promoter requires the appropriate growth conditions for induction. In addition, in some embodiments, the timing of the harvest is important. For example, the baculoviral systems used in insect cell expression are lytic viruses, and thus harvest time selection can be crucial for product yield.

Appropriate host cells include yeast, bacteria, archaebacteria, fungi, and insect and animal cells, including mammalian cells. Of particular interest are *Saccharomyces cerevisiae* and other yeasts, *E. coli, Bacillus subtilis*, Sf9 cells, C129 cells, 293 cells, *Neurospora*, BHK, CHO, COS, HeLa cells, HUVEC (human umbilical vein endothelial cells), THP1 cells (a macrophage cell line) and various other human cells and cell lines.

In a preferred embodiment, the angiogenesis proteins are expressed in mammalian cells. Mammalian expression systems are also known in the art, and include retroviral and adenoviral systems. Of particular use as mammalian promoters are the promoters from mammalian viral genes, since the viral genes are often highly expressed and have a broad host range. Examples include the SV40 early promoter, mouse mammary tumor virus LTR promoter, adenovirus major late promoter, herpes simplex virus promoter, and the CMV promoter (see, *e.g.*, Fernandez & Hoeffler, *supra*). Typically, transcription termination and polyadenylation sequences recognized by mammalian cells are regulatory regions located 3' to the translation stop codon and thus, together with the promoter elements, flank the coding sequence. Examples of transcription terminator and polyadenlytion signals include those derived form SV40.

The methods of introducing exogenous nucleic acid into mammalian hosts, as well as other hosts, is well known in the art, and will vary with the host cell used. Techniques include dextran-mediated transfection, calcium phosphate precipitation, polybrene mediated transfection, protoplast fusion, electroporation, viral infection, encapsulation of the polynucleotide(s) in liposomes, and direct microinjection of the DNA into nuclei.

In a preferred embodiment, angiogenesis proteins are expressed in bacterial systems. Bacterial expression systems are well known in the art. Promoters from bacteriophage may also be used and are known in the art. In addition, synthetic promoters and hybrid promoters are also useful; for example, the tac promoter is a hybrid of the trp and lac promoter sequences. Furthermore, a bacterial promoter can include naturally occurring promoters of non-bacterial origin that have the ability to bind bacterial RNA polymerase and initiate transcription. In addition to a functioning promoter sequence, an efficient ribosome binding site is desirable. The expression vector may also include a signal peptide sequence that provides for secretion of the angiogenesis protein in bacteria. The protein is either secreted into the growth media (gram-positive bacteria) or into the periplasmic space, located between the inner and outer membrane of the cell (gram-negative bacteria). The bacterial expression vector may also include a selectable marker gene to allow for the selection of bacterial strains that have been transformed. Suitable selection genes include genes which render the bacteria resistant to drugs such as ampicillin, chloramphenicol, erythromycin, kanamycin, neomycin and tetracycline. Selectable markers also include biosynthetic genes, such as those in the histidine, tryptophan and leucine biosynthetic pathways. These components are assembled into expression vectors. Expression vectors for bacteria are well known in the art, and include vectors for *Bacillus subtilis, E. coli, Streptococcus cremoris*, and *Streptococcus lividans*, among others (*e.g.*, Fernandez & Hoeffler, *supra*). The bacterial expression vectors are transformed into bacterial host cells using techniques well known in the art, such as calcium chloride treatment, electroporation, and others.

In one embodiment, angiogenesis proteins are produced in insect cells. Expression vectors for the transformation of insect cells, and in particular, baculovirus-based expression vectors, are well known in the art.

In a preferred embodiment, angiogenesis protein is produced in yeast cells. Yeast expression systems are well known in the art, and include expression vectors for *Saccharomyces cerevisiae, Candida albicans* and *C. maltosa, Hansenula polymorpha, Kluyveromyces fragilis* and *K. lactis, Pichia guillerimondii and P. pastoris, Schizosaccharomyces pombe*, and *Yarrowia lipolytica*.

The angiogenesis protein may also be made as a fusion protein, using techniques well known in the art. Thus, for example, for the creation of monoclonal antibodies, if the desired epitope is small, the angiogenesis protein may be fused to a carrier protein to form an immunogen. Alternatively, the angiogenesis protein may be made as a fusion protein to increase expression, or for other reasons. For example, when the angiogenesis protein is an angiogenesis peptide, the nucleic acid encoding the peptide may be linked to another nucleic acid for expression purposes. Fusion with detection epitope tags can be made, e.g., with FLAG, His 6, myc, HA, etc.

In one embodiment, the angiogenesis nucleic acids, proteins and antibodies of the invention are labeled. By "labeled" herein is meant that a compound has at least one element, isotope or chemical compound attached to enable the detection of the compound. In general, labels fall into three classes: a) isotopic labels, which may be radioactive or heavy isotopes; b) immune labels, which may be antibodies, antigens, or epitope tags and c) colored or fluorescent dyes. The labels may be incorporated into the angiogenesis nucleic acids, proteins and antibodies at any position. For example, the label should be capable of producing, either directly or indirectly, a detectable signal. The detectable moiety may be a radioisotope, such as ^{3}H, ^{14}C, ^{32}P, ^{35}S, or ^{125}I, a fluorescent or chemiluminescent compound, such as fluorescein isothiocyanate, rhodamine, or luciferin, or an enzyme, such as alkaline phosphatase, beta-galactosidase or horseradish peroxidase. Any method known in the art for conjugating the antibody to the label may be employed, including those methods described by Hunter et al., Nature, 144:945 (1962); David et al., Biochemistry, 13:1014 (1974); Pain et al., J. Immunol. Meth., 40:219 (1981); and Nygren, J. Histochem. and Cytochem., 30:407 (1982).

Accordingly, the present invention also provides angiogenesis protein sequences. An angiogenesis protein of the present invention may be identified in several ways. "Protein" in this sense includes proteins, polypeptides, and peptides. As will be appreciated by those in the art, the nucleic acid sequences of the invention can be used to generate protein sequences. There are a variety of ways to do this, including cloning the entire gene and verifying its frame and amino acid sequence, or by comparing it to known sequences to search for homology to provide a frame, assuming the angiogenesis protein has an identifiable motif or homology to some protein in the database being used. Generally, the nucleic acid sequences are input into a program that will search all three frames for homology. This is done in a preferred embodiment using the following NCBI Advanced BLAST parameters. The program is blastx or blastn. The database is nr. The input data is as "Sequence in FASTA format". The organism list is "none". The "expect" is 10; the filter is default. The "descriptions" is 500, the "alignments" is 500, and the "alignment view" is pairwise. The "Query Genetic Codes" is standard (1). The matrix is BLOSUM62; gap existence cost is 11, per residue gap cost is 1; and the lambda ratio is .85 default. This results in the generation of a putative protein sequence.

Also included within one embodiment of angiogenesis proteins are amino acid variants of the naturally occurring sequences, as determined herein. Preferably, the variants are preferably greater than about 75% homologous to the wild-type sequence, more preferably greater than about 80%, even more preferably greater than about 85% and most preferably greater than 90%. In some embodiments the homology will be as high as about 93 to 95 or 98%. As for nucleic acids, homology in this context means sequence similarity or identity, with identity being preferred. This homology will be determined using standard techniques well known in the art as are outlined above for the nucleic acid homologies.

Angiogenesis proteins of the present invention may be shorter or longer than the wild type amino acid sequences. Thus, in a preferred embodiment, included within the definition of angiogenesis proteins are portions or fragments of the wild type sequences. herein. In addition, as outlined above, the angiogenesis nucleic acids of the invention may be used to obtain additional coding regions, and thus additional protein sequence, using techniques known in the art.

In a preferred embodiment, the angiogenesis proteins are derivative or variant angiogenesis proteins as compared to the wild-type sequence. That is, as outlined more fully below, the derivative angiogenesis peptide will often contain at least one amino acid substitution, deletion or insertion, with amino acid substitutions being particularly preferred. The amino acid substitution, insertion or deletion may occur at any residue within the angiogenesis peptide.

Also included within one embodiment of angiogenesis proteins of the present invention are amino acid sequence variants. These variants typically fall into one or more of three classes: substitutional, insertional or deletional variants. These variants ordinarily are prepared by site specific mutagenesis of nucleotides in the DNA encoding the angiogenesis protein, using cassette or PCR mutagenesis or other techniques well known in the art, to produce DNA encoding the variant, and thereafter expressing the DNA in recombinant cell culture as outlined above. However, variant angiogenesis protein fragments having up to about 100-150 residues may be prepared by in vitro synthesis using established techniques. Amino acid sequence variants are characterized by the predetermined nature of the variation, a feature that sets them apart from naturally occurring allelic or interspecies variation of the angiogenesis protein amino acid sequence. The variants typically exhibit the same qualitative biological activity as the naturally occurring analogue, although variants can also be selected which have modified characteristics as will be more fully outlined below.

While the site or region for introducing an amino acid sequence variation is predetermined, the mutation per se need not be predetermined. For example, in order to optimize the performance of a mutation at a given site, random mutagenesis may be conducted at the target codon or region and the expressed angiogenesis variants screened for the optimal combination of desired activity. Techniques for making substitution mutations at predetermined sites in DNA having a known sequence are well known, for example, M13 primer mutagenesis and PCR mutagenesis. Screening of the mutants is done using assays of angiogenesis protein activities.

Amino acid substitutions are typically of single residues; insertions usually will be on the order of from about 1 to 20 amino acids, although considerably larger insertions may be tolerated. Deletions range from about 1 to about 20 residues, although in some cases deletions may be much larger.

Substitutions, deletions, insertions or any combination thereof may be used to arrive at a final derivative. Generally these changes are done on a few amino acids to minimize the alteration of the molecule. However, larger changes may be tolerated in certain circumstances. When small alterations in the characteristics of the angiogenesis protein are desired, substitutions are generally made in accordance with the amino acid substitution chart provided in the definition section.

Substantial changes in function or immunological identity are made by selecting substitutions that are less conservative than those provided in the definition of "conservative substitution". For example, substitutions may be made which more significantly affect: the structure of the polypeptide backbone in the area of the alteration, for example the alpha-helical or beta-sheet structure; the charge or hydrophobicity of the molecule at the target site; or the bulk of the side chain. The substitutions which in general are expected to produce the greatest changes in the polypeptide's properties are those in which (a) a hydrophilic residue, *e.g.* seryl or threonyl, is substituted for (or by) a hydrophobic residue, *e.g.* leucyl, isoleucyl, phenylalanyl, valyl or alanyl; (b) a cysteine or proline is substituted for (or by) any other residue; (c) a residue having an electropositive side chain, *e.g.* lysyl, arginyl, or histidyl, is substituted for (or by) an electronegative residue, *e.g.* glutamyl or aspartyl; or (d) a residue having a bulky side chain, *e.g.* phenylalanine, is substituted for (or by) one not having a side chain, *e.g.* glycine.

The variants typically exhibit the same qualitative biological activity and will elicit the same immune response as the naturally-occurring analog, although variants also are selected to modify the characteristics of the angiogenesis proteins as needed. Alternatively, the variant may be designed such that the biological activity of the angiogenesis protein is altered. For example, glycosylation sites may be altered or removed.

Covalent modifications of angiogenesis polypeptides are included within the scope of this invention. One type of covalent modification includes reacting targeted amino acid residues of an angiogenesis polypeptide with an organic derivatizing agent that is capable of reacting with selected side chains or the N-or C-terminal residues of an angiogenesis polypeptide. Derivatization with bifunctional agents is useful, for instance, for crosslinking angiogenesis polypeptides to a water-insoluble support matrix or surface for use in the method for purifying anti-angiogenesis polypeptide antibodies or screening assays, as is more fully described below. Commonly used crosslinking agents include, *e.g.*, 1,1-bis(diazoacetyl)-2-phenylethane, glutaraldehyde, N-hydroxysuccinimide esters, for example, esters with 4-azidosalicylic acid, homobifunctional imidoesters, including disuccinimidyl esters such as 3,3'-dithiobis(succinimidylpropionate), bifunctional maleimides such as bis-N-maleimido-1,8-octane and agents such as methyl-3-[(p-azidophenyl)dithio]propioimidate.

Other modifications include deamidation of glutaminyl and asparaginyl residues to the corresponding glutamyl and aspartyl residues, respectively, hydroxylation of proline and lysine, phosphorylation of hydroxyl groups of seryl, threonyl or tyrosyl residues, methylation of the γ-amino groups of lysine, arginine, and histidine side chains [T.E. Creighton, Proteins: Structure and Molecular Properties, W.H. Freeman & Co., San Francisco, pp. 79-86 (1983)], acetylation of the N-terminal amine, and amidation of any C-terminal carboxyl group.

Another type of covalent modification of the angiogenesis polypeptide included within the scope of this invention comprises altering the native glycosylation pattern of the polypeptide. "Altering the native glycosylation pattern" is intended for purposes herein to mean deleting one or more carbohydrate moieties found in native sequence angiogenesis polypeptide, and/or adding one or more glycosylation sites that are not present in the native sequence angiogenesis polypeptide. Glycosylation patterns can be altered in many ways. For example the use of different cell types to express angiogenesis-associated sequences can result in different glycosylation patterns.

Addition of glycosylation sites to angiogenesis polypeptides may also be accomplished by altering the amino acid sequence thereof. The alteration may be made, for example, by the addition of, or substitution by, one or more serine or threonine residues to the native sequence angiogenesis polypeptide (for O-linked glycosylation sites). The angiogenesis amino acid sequence may optionally be altered through changes at the DNA level, particularly by mutating the DNA encoding the angiogenesis polypeptide at preselected bases such that codons are generated that will translate into the desired amino acids.

Another means of increasing the number of carbohydrate moieties on the angiogenesis polypeptide is by chemical or enzymatic coupling of glycosides to the polypeptide. Such methods are described in the art, e.g., in WO 87/05330 published 11 September 1987, and in Aplin and Wriston, CRC Crit. Rev. Biochem., pp. 259-306 (1981).

Removal of carbohydrate moieties present on the angiogenesis polypeptide may be accomplished chemically or enzymatically or by mutational substitution of codons encoding for amino acid residues that serve as targets for glycosylation. Chemical deglycosylation techniques are known in the art and described, for instance, by Hakimuddin, et al., Arch. Biochem. Biophys., 259:52 (1987) and by Edge et al., Anal. Biochem., 118:131 (1981). Enzymatic cleavage of carbohydrate moieties on polypeptides can be achieved by the use of a variety of endo-and exo-glycosidases as described by Thotakura et al., Meth. Enzymol., 138:350 (1987).

Another type of covalent modification of angiogenesis comprises linking the angiogenesis polypeptide to one of a variety of nonproteinaceous polymers, e.g., polyethylene glycol, polypropylene glycol, or polyoxyalkylenes, in the manner set forth in U.S. Patent Nos. 4,640,835; 4,496,689; 4,301,144; 4,670,417; 4,791,192 or 4,179,337.

Angiogenesis polypeptides of the present invention may also be modified in a way to form chimeric molecules comprising an angiogenesis polypeptide fused to another, heterologous polypeptide or amino acid sequence. In one embodiment, such a chimeric molecule comprises a fusion of an angiogenesis polypeptide with a tag polypeptide which provides an epitope to which an anti-tag antibody can selectively bind. The epitope tag is generally placed at the amino-or carboxyl-terminus of the angiogenesis polypeptide. The presence of such epitope-tagged forms of an angiogenesis polypeptide can be detected using an antibody against the tag polypeptide. Also, provision of the epitope tag enables the angiogenesis polypeptide to be readily purified by affinity purification using an anti-tag antibody or another type of affinity matrix that binds to the epitope tag. In an alternative embodiment, the chimeric molecule may comprise a fusion of an angiogenesis polypeptide with an immunoglobulin or a particular region of an immunoglobulin. For a bivalent form of the chimeric molecule, such a fusion could be to the Fc region of an IgG molecule.

Various tag polypeptides and their respective antibodies are well known in the art. Examples include poly-histidine (poly-his) or poly-histidine-glycine (poly-his-gly) tags; HIS6 and metal chelation tags, the flu HA tag polypeptide and its antibody 12CA5 [Field *et al., Mol. Cell. Biol.*, 8:2159-2165 (1988)]; the c-myc tag and the 8F9, 3C7, 6E10, G4, B7 and 9E10 antibodies thereto [Evan *et al., Molecular and Cellular Biology*, 5:3610-3616 (1985)];

and the Herpes Simplex virus glycoprotein D (gD) tag and its antibody [*Paborsky et al., Protein Engineering*, 3(6):547-553 (1990)]. Other tag polypeptides include the Flag-peptide [*Hopp et al., BioTechnology*, 6:1204-1210 (1988)]; the KT3 epitope peptide [Martin *et al., Science,* 255:192-194 (1992)]; tubulin epitope peptide [Skinner *et al., J. Biol. Chem.*, 266:15163-15166 (1991)]; and the T7 gene 10 protein peptide tag [Lutz-Freyermuth *et al., Proc. Natl. Acad. Sci. USA*, 87:6393-6397 (1990)].

Also included with an embodiment of angiogenesis protein are other angiogenesis proteins of the angiogenesis family, and angiogenesis proteins from other organisms, which are cloned and expressed as outlined below. Thus, probe or degenerate polymerase chain reaction (PCR) primer sequences may be used to find other related angiogenesis proteins from humans or other organisms. As will be appreciated by those in the art, particularly useful probe and/or PCR primer sequences include the unique areas of the angiogenesis nucleic acid sequence. As is generally known in the art, preferred PCR primers are from about 15 to about 35 nucleotides in length, with from about 20 to about 30 being preferred, and may contain inosine as needed. The conditions for the PCR reaction are well known in the art (*e.g.*, Innis, PCR Protocols, *supra*).

In addition, as is outlined herein, angiogenesis proteins can be made that are longer than those encoded by the nucleic acids of the figures, *e.g.*, by the elucidation of extended sequences, the addition of epitope or purification tags, the addition of other fusion sequences, etc.

Angiogenesis proteins may also be identified as being encoded by angiogenesis nucleic acids. Thus, angiogenesis proteins are encoded by nucleic acids that will hybridize to the sequences of the sequence listings, or their complements, as outlined herein.

In a preferred embodiment, when the angiogenesis protein is to be used to generate antibodies, *e.g.*, for immunotherapy or immunodiagnosis, the angiogenesis protein should share at least one epitope or determinant with the full length protein. By "epitope" or "determinant" herein is typically meant a portion of a protein which will generate and/or bind an antibody or T-cell receptor in the context of MHC. Thus, in most instances, antibodies made to a smaller angiogenesis protein will be able to bind to the full-length protein, particularly linear epitopes. In a preferred embodiment, the epitope is unique; that is, antibodies generated to a unique epitope show little or no cross-reactivity. In a preferred embodiment, the epitope is selected from a protein sequence set out in Table 8.

Methods of preparing polyclonal antibodies are known to the skilled artisan (*e.g.*, Coligan, *supra*; and Harlow & Lane, *supra*). Polyclonal antibodies can be raised in a mammal, *e.g.*, by one or more injections of an immunizing agent and, if desired, an adjuvant. Typically, the immunizing agent and/or adjuvant will be injected in the mammal by multiple subcutaneous or intraperitoneal injections. The immunizing agent may include a protein encoded by a nucleic acid of the figures or fragment thereof or a fusion protein thereof. It may be useful to conjugate the immunizing agent to a protein known to be immunogenic in the mammal being immunized. Examples of such immunogenic proteins include but are not limited to keyhole limpet hemocyanin, serum albumin, bovine thyroglobulin, and soybean trypsin inhibitor. Examples of adjuvants which may be employed include Freund's complete adjuvant and MPL-TDM adjuvant (monophosphoryl Lipid A, synthetic trehalose dicorynomycolate). The immunization protocol may be selected by one skilled in the art without undue experimentation.

The antibodies may, alternatively, be monoclonal antibodies. Monoclonal antibodies may be prepared using hybridoma methods, such as those described by Kohler and Milstein, Nature, 256:495 (1975). In a hybridoma method, a mouse, hamster, or other appropriate host animal, is typically immunized with an immunizing agent to elicit lymphocytes that produce or are capable of producing antibodies that will specifically bind to the immunizing agent. Alternatively, the lymphocytes may be immunized in vitro. The immunizing agent will typically include a polypeptide encoded by a nucleic acid of Tables 1-8 , or fragment thereof, or a fusion protein thereof. Generally, either peripheral blood lymphocytes ("PBLs") are used if cells of human origin are desired, or spleen cells or lymph node cells are used if non-human mammalian sources are desired. The lymphocytes are then fused with an immortalized cell line using a suitable fusing agent, such as polyethylene glycol, to form a hybridoma cell [Goding, Monoclonal Antibodies: Principles and Practice, Academic Press, (1986) pp. 59-103]. Immortalized cell lines are usually transformed mammalian cells, particularly myeloma cells of rodent, bovine and human origin. Usually, rat or mouse myeloma cell lines are employed. The hybridoma cells may be cultured in a suitable culture medium that preferably contains one or more substances that inhibit the growth or survival of the unfused, immortalized cells. For example, if the parental cells lack the enzyme hypoxanthine guanine phosphoribosyl transferase (HGPRT or HPRT), the culture medium for the hybridomas typically will include hypoxanthine, aminopterin, and thymidine ("HAT medium"), which substances prevent the growth of HGPRT-deficient cells.

In one embodiment, the antibodies are bispecific antibodies. Bispecific antibodies are monoclonal, preferably human or humanized, antibodies that have binding specificities for at least two different antigens or that have binding specificities for two epitopes on the same antigen. In one embodiment, one of the binding specificities is for a protein encoded by a nucleic acid Tables 1-8 or a fragment thereof, the other one is for any other antigen, and preferably for a cell-surface protein or receptor or receptor subunit, preferably one that is tumor specific. Alternatively, tetramer-type technology may create multivalent reagents.

In a preferred embodiment, the antibodies to angiogenesis protein are capable of reducing or eliminating a biological function of an angiogenesis protein, as is described below. That is, the addition of anti-angiogenesis protein antibodies (either polyclonal or preferably monoclonal) to angiogenic tissue (or cells containing angiogenesis) may reduce or eliminate the angiogenesis activity. Generally, at least a 25% decrease in activity is preferred, with at least about 50% being particularly preferred and about a 95-100% decrease being especially preferred.

In a preferred embodiment the antibodies to the angiogenesis proteins are humanized antibodies (*e.g.*, Xenerex Biosciences, Mederex, Inc., Abgenix, Inc., Protein Design Labs,Inc.) Humanized forms of non-human (e.g., murine) antibodies are chimeric molecules of immunoglobulins, immunoglobulin chains or fragments thereof (such as Fv, Fab, Fab', F(ab')2 or other antigen-binding subsequences of antibodies) which contain minimal sequence derived from non-human immunoglobulin. Humanized antibodies include human immunoglobulins (recipient antibody) in which residues form a complementary determining region (CDR) of the recipient are replaced by residues from a CDR of a non-human species (donor antibody) such as mouse, rat or rabbit having the desired specificity, affinity and capacity. In some instances, Fv framework residues of the human immunoglobulin are replaced by corresponding non-human residues. Humanized antibodies may also comprise residues which are found neither in the recipient antibody nor in the imported CDR or framework sequences. In general, a humanized antibody will comprise substantially all of at least one, and typically two, variable domains, in which all or substantially all of the CDR regions correspond to those of a non-human immunoglobulin and all or substantially all of the framework (FR) regions are those of a human immunoglobulin consensus sequence. The humanized antibody optimally also will comprise at least a portion of an immunoglobulin constant region (Fc), typically that of a human immunoglobulin [Jones et al., Nature, 321:522-525 (1986); Riechmann et al., Nature, 332:323-329 (1988); and Presta, Curr. Op. Struct. Biol., 2:593-596 (1992)].

Methods for humanizing non-human antibodies are well known in the art. Generally, a humanized antibody has one or more amino acid residues introduced into it from a source which is non-human. These non-human amino acid residues are often referred to as import residues, which are typically taken from an import variable domain. Humanization can be essentially performed following the method of Winter and co-workers [Jones et al., Nature, 321:522-525 (1986); Riechmann et al., Nature, 332:323-327 (1988); Verhoeyen et al., Science, 239:1534-1536 (1988)], by substituting rodent CDRs or CDR sequences for the corresponding sequences of a human antibody. Accordingly, such humanized antibodies are chimeric antibodies (U.S. Patent No. 4,816,567), wherein substantially less than an intact human variable domain has been substituted by the corresponding sequence from a non-human species. In practice, humanized antibodies are typically human antibodies in which some CDR residues and possibly some FR residues are substituted by residues from analogous sites in rodent antibodies.

Human antibodies can also be produced using various techniques known in the art, including phage display libraries [Hoogenboom and Winter, J. Mol. Biol., 227:381 (1991); Marks et al., J. Mol. Biol., 222:581 (1991)]. The techniques of Cole et al. and Boerner et al. are also available for the preparation of human monoclonal antibodies (Cole et al., Monoclonal Antibodies and Cancer Therapy, Alan R. Liss, p. 77 (1985) and Boerner et al., J. Immunol., 147(1):86-95 (1991)]. Similarly, human antibodies can be made by introducing of human immunoglobulin loci into transgenic animals, e.g., mice in which the endogenous immunoglobulin genes have been partially or completely inactivated. Upon challenge, human antibody production is observed, which closely resembles that seen in humans in all respects, including gene rearrangement, assembly, and antibody repertoire. This approach is described, for example, in U.S. Patent Nos. 5,545,807; 5,545,806; 5,569,825; 5,625,126; 5,633,425; 5,661,016, and in the following scientific publications: Marks et al., Bio/Technology 10, 779-783 (1992); Lonberg et al., Nature 368 856-859 (1994); Morrison, Nature 368, 812-13 (1994); Fishwild et al., Nature Biotechnology 14, 845-51 (1996); Neuberger, Nature Biotechnology 14, 826 (1996); Lonberg and Huszar, Intern. Rev. Immunol. 13 65-93 (1995).

By immunotherapy is meant treatment of angiogenesis with an antibody raised against angiogenesis proteins. As used herein, immunotherapy can be passive or active. Passive immunotherapy as defined herein is the passive transfer of antibody to a recipient (patient). Active immunization is the induction of antibody and/or T-cell responses in a recipient (patient). Induction of an immune response is the result of providing the recipient with an antigen to which antibodies are raised. As appreciated by one of ordinary skill in the art, the antigen may be provided by injecting a polypeptide against which antibodies are desired to be raised into a recipient, or contacting the recipient with a nucleic acid capable of expressing the antigen and under conditions for expression of the antigen, leading to an immune response.

In a preferred embodiment the angiogenesis proteins against which antibodies are raised are secreted proteins as described above. Without being bound by theory, antibodies used for treatment, bind and prevent the secreted protein from binding to its receptor, thereby inactivating the secreted angiogenesis protein.

In another preferred embodiment, the angiogenesis protein to which antibodies are raised is a transmembrane protein. Without being bound by theory, antibodies used for treatment, bind the extracellular domain of the angiogenesis protein and prevent it from binding to other proteins, such as circulating ligands or cell-associated molecules. The antibody may cause down-regulation of the transmembrane angiogenesis protein. As will be appreciated by one of ordinary skill in the art, the antibody may be a competitive, non-competitive or uncompetitive inhibitor of protein binding to the extracellular domain of the angiogenesis protein. The antibody is also an antagonist of the angiogenesis protein. Further, the antibody prevents activation of the transmembrane angiogenesis protein. In one aspect, when the antibody prevents the binding of other molecules to the angiogenesis protein, the antibody prevents growth of the cell. The antibody may also be used to target or sensitize the cell to cytotoxic agents, including, but not limited to TNF-α, TNF-β, IL-1, INF-γ and IL-2, or chemotherapeutic agents including 5FU, vinblastine, actinomycin D, cisplatin, methotrexate, and the like. In some instances the antibody belongs to a sub-type that activates serum complement when complexed with the transmembrane protein thereby mediating cytotoxicity or antigen-dependent cytotoxicity (ADCC). Thus, angiogenesis is treated by administering to a patient antibodies directed against the transmembrane angiogenesis protein. Antibody-labeling may activate a co-toxin, localize a toxin payload, or otherwise provide means to locally ablate cells.

In another preferred embodiment, the antibody is conjugated or fused to an effector moiety. The effector moiety can be any number of molecules, including labelling moieties such as radioactive labels or fluorescent labels, or can be a therapeutic moiety. In one aspect the therapeutic moiety is a small molecule that modulates the activity of the angiogenesis protein. In another aspect the therapeutic moiety modulates the activity of molecules associated with or in close proximity to the angiogenesis protein. The therapeutic moiety may inhibit enzymatic activity such as protease or collagenase activity associated with angiogenesis, or be an attractant of other cells, such as NK cells.

In a preferred embodiment, the therapeutic moiety can also be a cytotoxic agent. In this method, targeting the cytotoxic agent to angiogenesis tissue or cells, results in a reduction in the number of afflicted cells, thereby reducing symptoms associated with angiogenesis. Cytotoxic agents are numerous and varied and include, but are not limited to, cytotoxic drugs or toxins or active fragments of such toxins. Suitable toxins and their corresponding fragments include diphtheria A chain, exotoxin A chain, ricin A chain, abrin A chain, curcin, crotin, phenomycin, enomycin and the like. Cytotoxic agents also include radiochemicals made by conjugating radioisotopes to antibodies raised against angiogenesis proteins, or binding of a radionuclide to a chelating agent that has been covalently attached to the antibody. Targeting the therapeutic moiety to transmembrane angiogenesis proteins not only serves to increase the local concentration of therapeutic moiety in the angiogenesis afflicted area, but also serves to reduce deleterious side effects that may be associated with the therapeutic moiety.

In another preferred embodiment, the angiogenesis protein against which the antibodies are raised is an intracellular protein. In this case, the antibody may be conjugated or fused to a protein which facilitates entry into the cell. In one case, the antibody enters the cell by endocytosis. In another embodiment, a nucleic acid encoding the antibody is administered to the individual or cell. Moreover, wherein the angiogenesis protein can be targeted within a cell, i.e., the nucleus, an antibody thereto contains a signal for that target localization, i.e., a nuclear localization signal.

The angiogenesis antibodies of the invention specifically bind to angiogenesis proteins. By "specifically bind" herein is meant that the antibodies bind to the protein with a K_d of at least about 0.1 mM, more usually at least about 1 µM, preferably at least about 0.1 µM or better, and most preferably, 0.01 µM or better. Selectivity of binding is also important.

In a preferred embodiment, the angiogenesis protein is purified or isolated after expression. Angiogenesis proteins may be isolated or purified in a variety of ways known to those skilled in the art depending on what other components are present in the sample. Standard purification methods include electrophoretic, molecular, immunological and chromatographic techniques, including ion exchange, hydrophobic, affinity, and reverse-phase HPLC chromatography, and chromatofocusing. For example, the angiogenesis protein may be purified using a standard anti-angiogenesis protein antibody column. Ultrafiltration and diafiltration techniques, in conjunction with protein concentration, are also useful. For general guidance in suitable purification techniques, see Scopes, R., Protein Purification, Springer-Verlag, NY (1982). The degree of purification necessary will vary depending on the use of the angiogenesis protein. In some instances no purification will be necessary.

Once expressed and purified if necessary, the angiogenesis proteins and nucleic acids are useful in a number of applications. They may be used as immunoselection reagents, as vaccine reagents, as screening agents, etc.

Detection of angiogenesis sequence for diagnostic and therapeutic applications

In one aspect, the RNAexpression levels of genes are determined for different cellular states in the angiogenesis phenotype. Expression levels of genes in normal tissue (*i.e.*, not undergoing angiogenesis) and in angiogenesis tissue (and in some cases, for varying severities of angiogenesis that relate to prognosis, as outlined below) are evaluated to provide expression profiles. An expression profile of a particular cell state or point of development is essentially a "fingerprint" of the state. While two states may have any particular gene similarly expressed, the evaluation of a number of genes simultaneously allows the generation of a gene expression profile that is reflective of the state of the cell. By comparing expression profiles of cells in different states, information regarding which genes are important (including both up- and down-regulation of genes) in each of these states is obtained. Then, diagnosis may be performed or confirmed to determine whether a tissue sample has the gene expression profile of normal or angiogenesic tissue. This will provide for molecular diagnosis of related conditions.

"Differential expression," or grammatical equivalents as used herein, refers to qualitative or quantitative differences in the temporal and/or cellular gene expression patterns within and among cells and tissue. Thus, a differentially expressed gene can qualitatively have its expression altered, including an activation or inactivation, in, *e.g.*, normal versus angiogenic tissue. Genes may be turned on or turned off in a particular state, relative to another state thus permitting comparison of two or more statese. A qualitatively regulated gene will exhibit an expression pattern within a state or cell type which is detectable by standard techniques. Some genes will be expressed in one state or cell type, but not in both. Alternatively, the difference in expression may be quantitative, *e.g.*, in that expression is increased or decreased; *i.e.*, gene expression is either upregulated, resulting in an increased amount of transcript, or downregulated, resulting in a decreased amount of transcript. The degree to which expression differs need only be large enough to quantify via standard characterization techniques as outlined below, such as by use of Affymetrix GeneChip™ expression arrays, Lockhart, Nature Biotechnology, 14:1675-1680 (1996), hereby expressly incorporated by reference. Other techniques include, but are not limited to, quantitative reverse transcriptase PCR, Northern analysis and RNase protection. As outlined above, preferably the change in expression (*i.e.*, upregulation or downregulation) is at least about 50%, more preferably at least about 100%, more preferably at least about 150%, more preferably at least about 200%, with from 300 to at least 1000% being especially preferred.

Evaluation may be at the gene transcript, or the protein level. The amount of gene expression may be monitored using nucleic acid probes to the DNA or RNA equivalent of the gene transcript, and the quantification of gene expression levels, or, alternatively, the final gene product itself (protein) can be monitored, *e.g.*, with antibodies to the angiogenesis protein and standard immunoassays (ELISAs, etc.) or other techniques, including mass spectroscopy assays, 2D gel electrophoresis assays, etc. Proteins corresponding to angiogenesis genes, *i.e.*, those identified as being important in an angiogenesis phenotype, can be evaluated in an angiogenesis diagnostic test.

In a preferred embodiment, gene expression monitoring is performed simultaneously on a number of genes. Multiple protein expression monitoring can be performed as well. Similarly, these assays may be performed on an individual basis as well.

In this embodiment, the angiogenesis nucleic acid probes are attached to biochips as outlined herein for the detection and quantification of angiogenesis sequences in a particular cell. The assays are further described below in the example. PCR techniques can be used to provide greater sensitivity.

In a preferred embodiment nucleic acids encoding the angiogenesis protein are detected. Although DNA or RNA encoding the angiogenesis protein may be detected, of particular interest are methods wherein an mRNA encoding an angiogenesis protein is detected. Probes to detect mRNA can be a nucleotide/deoxynucleotide probe that is complementary to and hybridizes with the mRNA and includes, but is not limited to, oligonucleotides, cDNA or RNA. Probes also should contain a detectable label, as defined herein. In one method the mRNA is detected after immobilizing the nucleic acid to be examined on a solid support such as nylon membranes and hybridizing the probe with the sample. Following washing to remove the non-specifically bound probe, the label is detected. In another method detection of the mRNA is performed in situ. In this method permeabilized cells or tissue samples are contacted with a detectably labeled nucleic acid probe for sufficient time to allow the probe to hybridize with the target mRNA. Following washing to remove the non-specifically bound probe, the label is detected. For example a digoxygenin labeled riboprobe (RNA probe) that is complementary to the mRNA encoding an angiogenesis protein is detected by binding the digoxygenin with an anti-digoxygenin secondary antibody and developed with nitro blue tetrazolium and 5-bromo-4-chloro-3-indoyl phosphate.

In a preferred embodiment, various proteins from the three classes of proteins as described herein (secreted, transmembrane or intracellular proteins) are used in diagnostic assays. The angiogenesis proteins, antibodies, nucleic acids, modified proteins and cells containing angiogenesis sequences are used in diagnostic assays. This can be performed on an individual gene or corresponding polypeptide level. In a preferred embodiment, the expression profiles are used, preferably in conjunction with high throughput screening techniques to allow monitoring for expression profile genes and/or corresponding polypeptides.

As described and defined herein, angiogenesis proteins, including intracellular, transmembrane or secreted proteins, find use as markers of angiogenesis. Detection of these proteins in putative angiogenesis tissue allows for detection or diagnosis of angiogenesis. In one embodiment, antibodies are used to detect angiogenesis proteins. A preferred method separates proteins from a sample by electrophoresis on a gel (typically a denaturing and reducing protein gel, but may be another type of gel, including isoelectric focusing gels and the like). Following separation of proteins, the angiogenesis protein is detected, *e.g.*, by immunoblotting with antibodies raised against the angiogenesis protein. Methods of immunoblotting are well known to those of ordinary skill in the art.

In another preferred method, antibodies to the angiogenesis protein find use in *in situ* imaging techniques, *e.g.*, in histology (*e.g.*, *Methods in Cell Biology: Antibodies in Cell Biology*, volume 37 (Asai, ed. 1993)). In this method cells are contacted with from one to many antibodies to the angiogenesis protein(s). Following washing to remove non-specific antibody binding, the presence of the antibody or antibodies is detected. In one embodiment the antibody is detected by incubating with a secondary antibody that contains a detectable label. In another method the primary antibody to the angiogenesis protein(s) contains a detectable label, for example an enzyme marker that can act on a substrate. In another preferred embodiment each one of multiple primary antibodies contains a distinct and detectable label. This method finds particular use in simultaneous screening for a plurality of angiogenesis proteins. As will be appreciated by one of ordinary skill in the art, many other histological imaging techniques are alsoprovided by the invention.

In a preferred embodiment the label is detected in a fluorometer which has the ability to detect and distinguish emissions of different wavelengths. In addition, a fluorescence activated cell sorter (FACS) can be used in the method.

In another preferred embodiment, antibodies find use in diagnosing angiogenesis from biological samples, such as blood, urine, sputum, or other bodily fluids. As previously described, certain angiogenesis proteins are secreted/circulating molecules. Blood samples, therefore, are useful as samples to be probed or tested for the presence of secreted angiogenesis proteins. Antibodies can be used to detect an angiogenesis protein by previously described immunoassay techniques including ELISA, immunoblotting (Western blotting), immunoprecipitation, BIACORE technology and the like. Conversely, the presence of antibodies may indicate an immune response against an endogenous angiogenesis protein.

In a preferred embodiment, *in situ* hybridization of labeled angiogenesis nucleic acid probes to tissue arrays is done. For example, arrays of tissue samples, including angiogenesis tissue and/or normal tissue, are made. *In situ* hybridization (*see, e.g.*, Ausubel, *supra*) is then performed. When comparing the fingerprints between an individual and a standard, the skilled artisan can make a diagnosis, a prognosis, or a prediction based on the findings. It is further understood that the genes which indicate the diagnosis may differ from those which indicate the prognosis and molecular profiling of the condition of the cells may lead to distinctions between responsive or refractory conditions or may be predictive of outcomes.

In a preferred embodiment, the angiogenesis proteins, antibodies, nucleic acids, modified proteins and cells containing angiogenesis sequences are used in prognosis assays. As above, gene expression profiles can be generated that correlate to angiogenesis severity, in terms of long term prognosis. Again, this may be done on either a protein or gene level, with the use of genes being preferred. As above, angiogenesis probes may be attached to biochips for the detection and quantification of angiogenesis sequences in a tissue or patient. The assays proceed as outlined above for diagnosis. PCR method may provide more sensitive and accurate quantification.

In a preferred embodiment members of the three classes of proteins as described herein are used in drug screening assays. The angiogenesis proteins, antibodies, nucleic acids, modified proteins and cells containing angiogenesis sequences are used in drug screening assays or by evaluating the effect of drug candidates on a "gene expression profile" or expression profile of polypeptides. In a preferred embodiment, the expression profiles are used, preferably in conjunction with high throughput screening techniques to allow monitoring for expression profile genes after treatment with a candidate agent (e.g., Zlokarnik, et al., Science 279, 84-8 (1998); Heid, *Genome Res* 6:986-94, 1996).

In a preferred embodiment, the angiogenesis proteins, antibodies, nucleic acids, modified proteins and cells containing the native or modified angiogenesis proteins are used in screening assays. That is, the present invention provides novel methods for screening for compositions which modulate the angiogenesis phenotype or an identified physiological function of an angiogenesis protein. As above, this can be done on an individual gene level or by evaluating the effect of drug candidates on a "gene expression profile". In a preferred embodiment, the expression profiles are used, preferably in conjunction with high throughput screening techniques to allow monitoring for expression profile genes after treatment with a candidate agent, see Zlokarnik, *supra.*

Having identified the differentially expressed genes herein, a variety of assays may be executed. In a preferred embodiment, assays may be run on an individual gene or protein level. That is, having identified a particular gene as up regulated in angiogenesis, test compounds can be screened for the ability to modulate gene expression or for binding to the angiogenic protein. "Modulation" thus includes both an increase and a decrease in gene expression. The preferred amount of modulation will depend on the original change of the gene expression in normal versus tissue undergoing angiogenesis, with changes of at least 10%, preferably 50%, more preferably 100-300%, and in some embodiments 300-1000% or greater. Thus, if a gene exhibits a 4-fold increase in angiogenic tissue compared to normal tissue, a decrease of about four-fold is often desired; similarly, a 10-fold decrease in angiogenic tissue compared to normal tissue often provides a target value of a 10-fold increase in expression to be induced by the test compound.

The amount of gene expression may be monitored using nucleic acid probes and the quantification of gene expression levels, or, alternatively, the gene product itself can be monitored, *e.g.*, through the use of antibodies to the angiogenesis protein and standard immunoassays. Proteomics and separation techniques may also allow quantification of expression.

In a preferred embodiment, gene expression or protein monitoring of a number of entitites, *i.e.*, an expression profile, is monitored simultaneously. Such profiles will typically invove a plurality of those entitites described herein..

In this embodiment, the angiogenesis nucleic acid probes are attached to biochips as outlined herein for the detection and quantification of angiogenesis sequences in a particular cell. Alternatively, PCR may be used. Thus, a series, e.g., of microtiter plate, may be used with dispensed primers in desired wells. A PCR reaction can then be performed and analyzed for each well.

Modulators of angiogenesis

Expression monitoring can be performed to identify compounds that modify the expression of one or more angiogenesis-associated sequences, *e.g.*, a polynucleotide sequence set out in Tables 1-8 . Generally, in a preferred embodiment, a test modulator is added to the cells prior to analysis. Moreover, screens are also provided to identify agents that modulate angiogenesis, modulate angiogenesis proteins, bind to an angiogenesis protein, or interfere with the binding of an angiogenesis protein and an antibody or other binding partner.

The term "test compound" or “drug candidate” or “modulator” or grammatical equivalents as used herein describes any molecule, *e.g.*, protein, oligopeptide, small organic molecule, polysaccharide, polynucleotide, *etc.*, to be tested for the capacity to directly or indirectly alter the angiogenesis phenotype or the expression of an angiogenesis sequence, *e.g.*, a nucleic acid or protein sequence. In preferred embodiments, modulators alter expression profiles, or expression profile nucleic acids or proteins provided herein. In one embodiment, the modulator suppresses an angiogenesis phenotype, for example to a normal tissue fingerprint. In another embodiment, a modulator induced an angiogenesis phenotype. Generally, a plurality of assay mixtures are run in parallel with different agent concentrations to obtain a differential response to the various concentrations. Typically, one of these concentrations serves as a negative control, *i.e.*, at zero concentration or below the level of detection.

In one aspect, a modulator will neutralize the effect of an angiogenesis protein. By “neutralize” is meant that activity of a protein is inhibited or blocked and thereby has substantially no effect on a cell.

In certain embodiments, combinatorial libraries of potential modulators will be screened for an ability to bind to an angiogenesis polypeptide or to modulate activity. Conventionally, new chemical entities with useful properties are generated by identifying a chemical compound (called a “lead compound”) with some desirable property or activity, *e.g.*, inhibiting activity, creating variants of the lead compound, and evaluating the property and activity of those variant compounds. Often, high throughput screening (HTS) methods are employed for such an analysis.

In one preferred embodiment, high throughput screening methods involve providing a library containing a large number of potential therapeutic compounds (candidate compounds). Such "combinatorial chemical libraries" are then screened in one or more assays to identify those library members (particular chemical species or subclasses) that display a desired characteristic activity. The compounds thus identified can serve as conventional "lead compounds" or can themselves be used as potential or actual therapeutics.

A combinatorial chemical library is a collection of diverse chemical compounds generated by either chemical synthesis or biological synthesis by combining a number of chemical "building blocks" such as reagents. For example, a linear combinatorial chemical library, such as a polypeptide (*e.g.*, mutein) library, is formed by combining a set of chemical building blocks called amino acids in every possible way for a given compound length (*i.e.*, the number of amino acids in a polypeptide compound). Millions of chemical compounds can be synthesized through such combinatorial mixing of chemical building blocks (Gallop *et al.* (1994) *J. Med. Chem.* 37(9): 1233-1251).

Preparation and screening of combinatorial chemical libraries is well known to those of skill in the art. Such combinatorial chemical libraries include, but are not limited to, peptide libraries (*see, e.g.*, U.S. Patent No. 5,010,175, Furka (1991) *Int. J. Pept. Prot. Res.*, 37: 487-493, Houghton *et al.* (1991) *Nature*, 354: 84-88), peptoids (PCT Publication No WO 91/19735, 26 Dec. 1991), encoded peptides (PCT Publication WO 93/20242, 14 Oct. 1993), random bio-oligomers (PCT Publication WO 92/00091, 9 Jan. 1992), benzodiazepines (U.S. Pat. No. 5,288,514), diversomers such as hydantoins, benzodiazepines and dipeptides (Hobbs *et al.*, (1993) *Proc. Nat. Acad. Sci. USA* 90: 6909-6913), vinylogous polypeptides (Hagihara *et al.* (1992) *J. Amer. Chem. Soc.* 114: 6568), nonpeptidal peptidomimetics with a Beta-D-Glucose scaffolding (Hirschmann *et al.*, (1992) *J. Amer. Chem. Soc.* 114: 9217-9218), analogous organic syntheses of small compound libraries (Chen *et al.* (1994) *J. Amer. Chem.* Soc. 116: 2661), oligocarbamates (Cho, et al., (1993) *Science* 261:1303), and/or peptidyl phosphonates (Campbell *et al.*, (1994) *J. Org. Chem.* 59: 658). *See, generally,* Gordon *et al.*, (1994) *J. Med. Chem.* 37:1385, nucleic acid libraries (*see, e.g.*, Strategene, Corp.), peptide nucleic acid libraries (*see, e.g.*, U.S. Patent 5,539,083), antibody libraries (*see, e.g.*, Vaughn *et al.* (1996) *Nature Biotechnology*, 14(3): 309-314), and PCT/US96/10287), carbohydrate libraries (*see, e.g.*, Liang *et al.*, (1996) *Science*, 274: 1520-1522, and U.S. Patent No. 5,593,853), and small organic molecule libraries (*see, e.g.*, benzodiazepines, Baum (1993)

C&EN, Jan 18, page 33; isoprenoids, U.S. Patent No. 5,569,588; thiazolidinones and metathiazanones, U.S. Patent No. 5,549,974; pyrrolidines, U.S. Patent Nos. 5,525,735 and 5,519,134; morpholino compounds, U.S. Patent No. 5,506,337; benzodiazepines, U.S. Patent No. 5,288,514; and the like).

Devices for the preparation of combinatorial libraries are commercially available (*see, e.g.*, 357 MPS, 390 MPS, Advanced Chem Tech, Louisville KY, Symphony, Rainin, Woburn, MA, 433A Applied Biosystems, Foster City, CA, 9050 Plus, Millipore, Bedford, MA).

A number of well known robotic systems have also been developed for solution phase chemistries. These systems include automated workstations like the automated synthesis apparatus developed by Takeda Chemical Industries, LTD. (Osaka, Japan) and many robotic systems utilizing robotic arms (Zymate II, Zymark Corporation, Hopkinton, Mass.; Orca, Hewlett-Packard, Palo Alto, Calif.), which mimic the manual synthetic operations performed by a chemist. Any of the above devices are suitable for use with the present invention. The nature and implementation of modifications to these devices (if any) so that they can operate as discussed herein will be apparent to persons skilled in the relevant art. In addition, numerous combinatorial libraries are themselves commercially available (*see, e.g.*, ComGenex, Princeton, N.J., Asinex, Moscow, Ru, Tripos, Inc., St. Louis, MO, ChemStar, Ltd, Moscow, RU, 3D Pharmaceuticals, Exton, PA, Martek Biosciences, Columbia, MD, *etc.*).

The assays to identify modulators are amenable to high throughput screening. Preferred assays thus detect enhancement or inhibition of angiogenesis gene transcription, inhibition or enhancement of polypeptide expression, and inhibition or enhancement of polypeptide activity.

High throughput assays for the presence, absence, quantification, or other properties of particular nucleic acids or protein products are well known to those of skill in the art. Similarly, binding assays and reporter gene assays are similarly well known. Thus, for example, U.S. Patent No. 5,559,410 discloses high throughput screening methods for proteins, U.S. Patent No. 5,585,639 discloses high throughput screening methods for nucleic acid binding (*i.e.*, in arrays), while U.S. Patent Nos. 5,576,220 and 5,541,061 disclose high throughput methods of screening for ligand/antibody binding.

In addition, high throughput screening systems are commercially available (*see, e.g.*, Zymark Corp., Hopkinton, MA; Air Technical Industries, Mentor, OH; Beckman Instruments, Inc. Fullerton, CA; Precision Systems, Inc., Natick, MA, *etc.*). These systems typically automate entire procedures, including all sample and reagent pipetting, liquid dispensing, timed incubations, and final readings of the microplate in detector(s) appropriate for the assay. These configurable systems provide high throughput and rapid start up as well as a high degree of flexibility and customization. The manufacturers of such systems provide detailed protocols for various high throughput systems. Thus, for example, Zymark Corp. provides technical bulletins describing screening systems for detecting the modulation of gene transcription, ligand binding, and the like.

In one embodiment, modulators are proteins, often naturally occurring proteins or fragments of naturally occurring proteins. Thus, *e.g.*, cellular extracts containing proteins, or random or directed digests of proteinaceous cellular extracts, may be used. In this way libraries of proteins may be made for screening in the methods of the invention. Particularly preferred in this embodiment are libraries of bacterial, fungal, viral, and mammalian proteins, with the latter being preferred, and human proteins being especially preferred. Paticularly useful test compound will be directed to the class of proteins to which the target belongs, *e.g.*, substrates for enzymes or ligands and receptors.

In a preferred embodiment, modulators are peptides of from about 5 to about 30 amino acids, with from about 5 to about 20 amino acids being preferred, and from about 7 to about 15 being particularly preferred. The peptides may be digests of naturally occurring proteins as is outlined above, random peptides, or "biased" random peptides. By "randomized" or grammatical equivalents herein is meant that each nucleic acid and peptide consists of essentially random nucleotides and amino acids, respectively. Since generally these random peptides (or nucleic acids, discussed below) are chemically synthesized, they may incorporate any nucleotide or amino acid at any position. The synthetic process can be designed to generate randomized proteins or nucleic acids, to allow the formation of all or most of the possible combinations over the length of the sequence, thus forming a library of randomized candidate bioactive proteinaceous agents.

In one embodiment, the library is fully randomized, with no sequence preferences or constants at any position. In a preferred embodiment, the library is biased. That is, some positions within the sequence are either held constant, or are selected from a limited number of possibilities. For example, in a preferred embodiment, the nucleotides or amino acid residues are randomized within a defined class, for example, of hydrophobic amino acids, hydrophilic residues, sterically biased (either small or large) residues, towards the creation of nucleic acid binding domains, the creation of cysteines, for cross-linking, prolines for SH-3 domains, serines, threonines, tyrosines or histidines for phosphorylation sites, etc., or to purines, etc.

Modulators of angiogenesis can also be nucleic acids, as defined above.

As described above generally for proteins, nucleic acid modulating agents may be naturally occurring nucleic acids, random nucleic acids, or "biased" random nucleic acids. For example, digests of procaryotic or eucaryotic genomes may be used as is outlined above for proteins.

In a preferred embodiment, the candidate compounds are organic chemical moieties, a wide variety of which are available in the literature.

After the candidate agent has been added and the cells allowed to incubate for some period of time, the sample containing a target sequence to be analyzed is added to the biochip. If required, the target sequence is prepared using known techniques. For example, the sample may be treated to lyse the cells, using known lysis buffers, electroporation, etc., with purification and/or amplification such as PCR performed as appropriate. For example, an *in vitro* transcription with labels covalently attached to the nucleotides is performed. Generally, the nucleic acids are labeled with biotin-FITC or PE, or with cy3 or cy5.

In a preferred embodiment, the target sequence is labeled with, for example, a fluorescent, a chemiluminescent, a chemical, or a radioactive signal, to provide a means of detecting the target sequence's specific binding to a probe. The label also can be an enzyme, such as, alkaline phosphatase or horseradish peroxidase, which when provided with an appropriate substrate produces a product that can be detected. Alternatively, the label can be a labeled compound or small molecule, such as an enzyme inhibitor, that binds but is not catalyzed or altered by the enzyme. The label also can be a moiety or compound, such as, an epitope tag or biotin which specifically binds to streptavidin. For the example of biotin, the streptavidin is labeled as described above, thereby, providing a detectable signal for the bound target sequence. Unbound labeled streptavidin is typically removed prior to analysis.

As will be appreciated by those in the art, these assays can be direct hybridization assays or can comprise "sandwich assays", which include the use of multiple probes, as is generally outlined in U.S. Patent Nos. 5,681,702, 5,597,909, 5,545,730, 5,594,117, 5,591,584, 5,571,670, 5,580,731, 5,571,670, 5,591,584, 5,624,802, 5,635,352, 5,594,118, 5,359,100, 5,124,246 and 5,681,697, all of which are hereby incorporated by reference. In this embodiment, in general, the target nucleic acid is prepared as outlined above, and then added to the biochip comprising a plurality of nucleic acid probes, under conditions that allow the formation of a hybridization complex.

A variety of hybridization conditions may be used in the present invention, including high, moderate and low stringency conditions as outlined above. The assays are generally run under stringency conditions which allows formation of the label probe hybridization complex only in the presence of target. Stringency can be controlled by altering a step parameter that is a thermodynamic variable, including, but not limited to, temperature, formamide concentration, salt concentration, chaotropic salt concentration pH, organic solvent concentration, etc.

These parameters may also be used to control non-specific binding, as is generally outlined in U.S. Patent No. 5,681,697. Thus it may be desirable to perform certain steps at higher stringency conditions to reduce non-specific binding.

The reactions outlined herein may be accomplished in a variety of ways. Components of the reaction may be added simultaneously, or sequentially, in different orders, with preferred embodiments outlined below. In addition, the reaction may include a variety of other reagents. These include salts, buffers, neutral proteins, *e.g.* albumin, detergents, *etc.* which may be used to facilitate optimal hybridization and detection, and/or reduce non-specific or background interactions. Reagents that otherwise improve the efficiency of the assay, such as protease inhibitors, nuclease inhibitors, anti-microbial agents, *etc.*, may also be used as appropriate, depending on the sample preparation methods and purity of the target.

The assay data are analyzed to determine the expression levels, and changes in expression levels as between states, of individual genes, forming a gene expression profile.

Screens are performed to identify modulators of the angiogenesis phenotype. In one embodiment, screening is performed to identify modulators that can induce or suppress a particular expression profile, thus preferably generating the associated phenotype. In another embodiment, *e.g.*, for diagnostic applications, having identified differentially expressed genes important in a particular state, screens can be performed to identify modulators that alter expression of individual genes. In an another embodiment, screening is performed to identify modulators that alter a biological function of the expression product of a differentially expressed gene. Again, having identified the importance of a gene in a particular state, screens are performed to identify agents that bind and/or modulate the biological activity of the gene product.

In addition screens can be done for genes that are induced in response to a candidate agent. After identifying a modulator based upon its ability to suppress an angiogenesis expression pattern leading to a normal expression pattern, or to modulate a single angiogenesis gene expression profile so as to mimic the expression of the gene from normal tissue, a screen as described above can be performed to identify genes that are specifically modulated in response to the agent. Comparing expression profiles between normal tissue and agent treated angiogenesis tissue reveals genes that are not expressed in normal tissue or angiogenesis tissue, but are expressed in agent treated tissue. These agent-specific sequences can be identified and used by methods described herein for angiogenesis genes or proteins. In particular these sequences and the proteins they encode find use in marking or identifying agent treated cells. In addition, antibodies can be raised against the agent induced proteins and used to target novel therapeutics to the treated angiogenesis tissue sample.

Thus, in one embodiment, a test compound is administered to a population of angiogenic cells, that have an associated angiogenesis expression profile. By "administration" or "contacting" herein is meant that the candidate agent is added to the cells in such a manner as to allow the agent to act upon the cell, whether by uptake and intracellular action, or by action at the cell surface. In some embodiments, nucleic acid encoding a proteinaceous candidate agent (*i.e.*, a peptide) may be put into a viral construct such as an adenoviral or retroviral construct, and added to the cell, such that expression of the peptide agent is accomplished, *e.g.*, PCT US97/01019. Regulatable gene therapy systems can also be used.

Once the test compound has been administered to the cells, the cells can be washed if desired and are allowed to incubate under preferably physiological conditions for some period of time. The cells are then harvested and a new gene expression profile is generated, as outlined herein.

Thus, for example, angiogenesis tissue may be screened for agents that modulate, *e.g.*, induce or suppress the angiogenesis phenotype. A change in at least one gene, preferably many, of the expression profile indicates that the agent has an effect on angiogenesis activity. By defining such a signature for the angiogenesis phenotype, screens for new drugs that alter the phenotype can be devised. With this approach, the drug target need not be known and need not be represented in the original expression screening platform, nor does the level of transcript for the target protein need to change.

Measure of angiogenesis polypeptide activity, or of angiogenesis or the angiogenic phenotype can be performed using a variety of assays. For example, the effects of the test compounds upon the function of the anagiogenesis polypeptides can be measured by examining parameters described above. A suitable physiological change that affects activity can be used to assess the influence of a test compound on the polypeptides of this invention.

When the functional consequences are determined using intact cells or animals, one can also measure a variety of effects such as, in the case of angiogenesis associated with tumors, tumor growth, neovascularization, hormone release, transcriptional changes to both known and uncharacterized genetic markers (*e.g.*, northern blots), changes in cell metabolism such as cell growth or pH changes, and changes in intracellular second messengers such as cGMP. In the assays of the invention, mammalian angiogenesis polypeptide is typically used, *e.g.*, mouse, preferably human.

A variety of angiogenesis assays are known to those of skill in the art. Various models have been employed to evaluate angiogenesis (*e.g.*, Croix *et al.*, *Science* 289:1197-1202, 2000 and Kahn *et al.*, *Amer. J. Pathol.* 156:1887-1900). Assessement of angiogenesis in the presence of a potential modulator of angiogenesis can be performed using cell-cultre-based angiogenesis assays, *e.g.*, endothelial cell tube formation assays, as well as other bioassays such as the chick CAM assay, the mouse corneal assay, and assays measuring the effect of administering potential modulators on implanted tumors. The chick CAM assay is described by O'Reilly, *et al.* Cell 79: 315-328, 1994. Briefly, 3 day old chicken embryos with intact yolks are separated from the egg and placed in a petri dish. After 3 days of incubation, a methylcellulose disc containing the protein to be tested is applied to the CAM of individual embryos. After about 48 hours of incubation, the embryos and CAMs are observed to determine whether endothelial growth has been inhibited. The mouse corneal assay involves implanting a growth factor-containing pellet, along with another pellet containing the suspected endothelial growth inhibitor, in the cornea of a mouse and observing the pattern of capillaries that are elaborated in the cornea. Angiogenesis can also be measured by determining the extent of neovascularization of a tumor. For example, carcinoma cells can be subcutaneously inoculated into athymic nude mice and tumor growth then monitored. The cancer cells are treated with an angiogenesis inhibitor, such as an antibody, or other compound that is exogenously administered, or can be transfected prior to inoculation with a polynucleotide inhibitor of angiogenesis. Immunoassays using endothelial cell-specific antibodies are typically used to stain for vascularization of tumor and the number of vessels in the tumor.

Assays to identify compounds with modulating activity can be performed *in vitro*. For example, an angiogenesis polypeptide is first contacted with a potential modulator and incubated for a suitable amount of time, *e.g.*, from 0.5 to 48 hours. In one embodiment, the angiogenesis polypeptide levels are determined *in vitro* by measuring the level of protein or mRNA. The level of protein is measured using immunoassays such as western blotting, ELISA and the like with an antibody that selectively binds to the angiogenesis polypeptide or a fragment thereof. For measurement of mRNA, amplification, e.g., using PCR, LCR, or hybridization assays, e.g., northern hybridization, RNAse protection, dot blotting, are preferred. The level of protein or mRNA is detected using directly or indirectly labeled detection agents, *e.g.*, fluorescently or radioactively labeled nucleic acids, radioactively or enzymatically labeled antibodies, and the like, as described herein.

Alternatively, a reporter gene system can be devised using the angiogenesis protein promoter operably linked to a reporter gene such as luciferase, green fluorescent protein, CAT, or β-gal. The reporter construct is typically transfected into a cell. After treatment with a potential modulator, the amount of reporter gene transcription, translation, or activity is measured according to standard techniques known to those of skill in the art.

In a preferred embodiment, as outlined above, screens may be done on individual genes and gene products (proteins). That is, having identified a particular differentially expressed gene as important in a particular state, screening of modulators of the expression of the gene or the gene product itself can be done. The gene products of differentially expressed genes are sometimes referred to herein as "angiogenesis proteins". In preferred embodiments the angiogenesis protein comprises a sequence shown in Table 8. The angiogenesis protein may be a fragment, or alternatively, be the full length protein to a fragment shown herein.

Preferably, the angiogenesis protein is a fragment of approximately 14 to 24 amino acids long. More preferably the fragment is a soluble fragment. In one embodiment an angiogenesis protein is conjugated or fused to an immunogenic agent or BSA.

In one embodiment, screening for modulators of expression of specific genes is performed. Typically, the expression of only one or a few genes are evaluated. In another embodiment, screens are designed to first find compounds that bind to differentially expressed proteins. These compounds are then evaluated for the ability to modulate differentially expressed activity. Moreover, once initial candidate compounds are identified, variants can be further screened to better evaluate strucutre activity relationships.

In a preferred embodiment, binding assays are done. In general, purified or isolated gene product is used; that is, the gene products of one or more differentially expressed nucleic acids are made. For example, antibodies are generated to the protein gene products, and standard immunoassays are run to determine the amount of protein present. Alternatively, cells comprising the angiogenesis proteins can be used in the assays.

Thus, in a preferred embodiment, the methods comprise combining an angiogenesis protein and a candidate compound, and determining the binding of the compound to the angiogenesis protein. Preferred embodiments utilize the human angiogenesis protein, although other mammalian proteins may also be used, for example for the development of animal models of human disease. In some embodiments, as outlined herein, variant or derivative angiogenesis proteins may be used.

Generally, in a preferred embodiment of the methods herein, the angiogenesis protein or the candidate agent is non-diffusably bound to an insoluble support having isolated sample receiving areas (e.g. a microtiter plate, an array, etc.). The insoluble supports may be made of any composition to which the compositions can be bound, is readily separated from soluble material, and is otherwise compatible with the overall method of screening. The surface of such supports may be solid or porous and of any convenient shape. Examples of suitable insoluble supports include microtiter plates, arrays, membranes and beads. These are typically made of glass, plastic (e.g., polystyrene), polysaccharides, nylon or nitrocellulose, teflon™, etc. Microtiter plates and arrays are especially convenient because a large number of assays can be carried out simultaneously, using small amounts of reagents and samples. The particular manner of binding of the composition is not crucial so long as it is compatible with the reagents and overall methods of the invention, maintains the activity of the composition and is nondiffusable. Preferred methods of binding include the use of antibodies (which do not sterically block either the ligand binding site or activation sequence when the protein is bound to the support), direct binding to "sticky" or ionic supports, chemical crosslinking, the synthesis of the protein or agent on the surface, etc. Following binding of the protein or agent, excess unbound material is removed by washing. The sample receiving areas may then be blocked through incubation with bovine serum albumin (BSA), casein or other innocuous protein or other moiety.

In a preferred embodiment, the angiogenesis protein is bound to the support, and a test compound is added to the assay. Alternatively, the candidate agent is bound to the support and the angiogenesis protein is added. Novel binding agents include specific antibodies, non-natural binding agents identified in screens of chemical libraries, peptide analogs, etc. Of particular interest are screening assays for agents that have a low toxicity for human cells. A wide variety of assays may be used for this purpose, including labeled in vitro protein-protein binding assays, electrophoretic mobility shift assays, immunoassays for protein binding, functional assays (phosphorylation assays, etc.) and the like.

The determination of the binding of the test modulating compound to the angiogenesis protein may be done in a number of ways. In a preferred embodiment, the compound is labelled, and binding determined directly, *e.g.*, by attaching all or a portion of the angiogenesis protein to a solid support, adding a labelled candidate agent (*e.g.*, a fluorescent label), washing off excess reagent, and determining whether the label is present on the solid support. Various blocking and washing steps may be utilized as appropriate.

By "labeled" herein is meant that the compound is either directly or indirectly labeled with a label which provides a detectable signal, *e.g.* radioisotope, fluorescers, enzyme, antibodies, particles such as magnetic particles, chemiluminescers, or specific binding molecules, etc. Specific binding molecules include pairs, such as biotin and streptavidin, digoxin and antidigoxin, etc. For the specific binding members, the complementary member would normally be labeled with a molecule which provides for detection, in accordance with known procedures, as outlined above. The label can directly or indirectly provide a detectable signal.

In some embodiments, only one of the components is labeled, *e.g.*, the proteins (or proteinaceous candidate compounds) can be labeled. Alternatively, more than one component can be labeled with different labels, *e.g.*, ^{125}I for the proteinsand a fluorophor for the compound. Proximity reagents, *e.g.*, quenching or energy transfer reagents are also useful.

In one embodiment, the binding of the test compound is determined by competitive binding assay. The competitor is a binding moiety known to bind to the target molecule (*i.e.* an angiogenesis protein), such as an antibody, peptide, binding partner, ligand, etc. Under certain circumstances, there may be competitive binding between the compound and the binding moiety, with the binding moiety displacing the compound. In one embodiment, the test compound is labeled. Either the compound, or the competitor, or both, is added first to the protein for a time sufficient to allow binding, if present. Incubations may be performed at a temperature which facilitates optimal activity, typically between 4 and 40°C. Incubation periods are typically optimized, *e.g.*, to facilitate rapid high throughput screening. Typically between 0.1 and 1 hour will be sufficient. Excess reagent is generally removed or washed away. The second component is then added, and the presence or absence of the labeled component is followed, to indicate binding.

In a preferred embodiment, the competitor is added first, followed by the test compound. Displacement of the competitor is an indication that the test compound is binding to the angiogenesis protein and thus is capable of binding to, and potentially modulating, the activity of the angiogenesis protein. In this embodiment, either component can be labeled. Thus, for example, if the competitor is labeled, the presence of label in the wash solution indicates displacement by the agent. Alternatively, if the test compound is labeled, the presence of the label on the support indicates displacement.

In an alternative embodiment, the test compound is added first, with incubation and washing, followed by the competitor. The absence of binding by the competitor may indicate that the test compound is bound to the angiogenesis protein with a higher affinity. Thus, if the test compound is labeled, the presence of the label on the support, coupled with a lack of competitor binding, may indicate that the test compound is capable of binding to the angiogenesis protein.

In a preferred embodiment, the methods comprise differential screening to identity agents that are capable of modulating the activitity of the angiogenesis proteins. In this embodiment, the methods comprise combining an angiogenesis protein and a competitor in a first sample. A second sample comprises a test compound, an angiogenesis protein, and a competitor. The binding of the competitor is determined for both samples, and a change, or difference in binding between the two samples indicates the presence of an agent capable of binding to the angiogenesis protein and potentially modulating its activity. That is, if the binding of the competitor is different in the second sample relative to the first sample, the agent is capable of binding to the angiogenesis protein.

Alternatively, differential screening is used to identify drug candidates that bind to the native angiogenesis protein, but cannot bind to modified angiogenesis proteins. The structure of the angiogenesis protein may be modeled, and used in rational drug design to synthesize agents that interact with that site. Drug candidates that affect the activity of an angiogenesis protein are also identified by screening drugs for the ability to either enhance or reduce the activity of the protein.

Positive controls and negative controls may be used in the assays. Preferably control and test samples are performed in at least triplicate to obtain statistically significant results. Incubation of all samples is for a time sufficient for the binding of the agent to the protein. Following incubation, samples are washed free of non-specifically bound material and the amount of bound, generally labeled agent determined. For example, where a radiolabel is employed, the samples may be counted in a scintillation counter to determine the amount of bound compound.

A variety of other reagents may be included in the screening assays. These include reagents like salts, neutral proteins, *e.g.* albumin, detergents, *etc.* which may be used to facilitate optimal protein-protein binding and/or reduce non-specific or background interactions. Also reagents that otherwise improve the efficiency of the assay, such as protease inhibitors, nuclease inhibitors, anti-microbial agents, etc., may be used. The mixture of components may be added in an order that provides for the requisite binding.

In a preferred embodiment, the invention provides methods for screening for a compound capable of modulating the activity of an angiogenesis protein. The methods comprise adding a test compound, as defined above, to a cell comprising angiogenesis proteins. Preferred cell types include almost any cell. The cells contain a recombinant nucleic acid that encodes an angiogenesis protein. In a preferred embodiment, a library of candidate agents are tested on a plurality of cells.

In one aspect, the assays are evaluated in the presence or absence or previous or subsequent exposure of physiological signals, for example hormones, antibodies, peptides, antigens, cytokines, growth factors, action potentials, pharmacological agents including chemotherapeutics, radiation, carcinogenics, or other cells (i.e. cell-cell contacts). In another example, the determinations are determined at different stages of the cell cycle process.

In this way, compounds that modulate angiogenesis agents are identified. Compounds with pharmacological activity are able to enhance or interfere with the activity of the angiogenesis protein. Once identified, similar structures are evaluated to identify critical structural feature of the compound.

In one embodiment, a method of inhibiting angiogenic cell division is provided. The method comprises administration of an angiogenesis inhibitor. In another embodiment, a method of inhibiting angiogenesis is provided. The method comprises administration of an angiogenesis inhibitor. In a further embodiment, methods of treating cells or individuals with angiogenesis are provided. The method comprises administration of an angiogenesis inhibitor.

In one embodiment, an angiogenesis inhibitor is an antibody as discussed above. In another embodiment, the angiogenesis inhibitor is an antisense molecule.

Polynucleotide modulators of angiogenesis

Antisense Polynucleotides

In certain embodiments, the activity of an angiogenesis-associated protein is downregulated, or entirely inhibited, by the use of antisense polynucleotide, *i.e.*, a nucleic acid complementary to, and which can preferably hybridize specifically to, a coding mRNA nucleic acid sequence, *e.g.*, an angiogenesis protein mRNA, or a subsequence thereof.

Binding of the antisense polynucleotide to the mRNA reduces the translation and/or stability of the mRNA.

In the context of this invention, antisense polynucleotides can comprise naturally-occurring nucleotides, or synthetic species formed from naturally-occurring subunits or their close homologs. Antisense polynucleotides may also have altered sugar moieties or inter-sugar linkages. Exemplary among these are the phosphorothioate and other sulfur containing species which are known for use in the art. Analogs are comprehended by this invention so long as they function effectively to hybridize with the angiogenesis protein mRNA. See, *e.g.*, Isis Pharmaceuticals, Carlsbad, CA; Sequitor, Inc., Natick, MA.

Such antisense polynucleotides can readily be synthesized using recombinant means, or can be synthesized *in vitro*. Equipment for such synthesis is sold by several vendors, including Applied Biosystems. The preparation of other oligonucleotides such as phosphorothioates and alkylated derivatives is also well known to those of skill in the art.

Antisense molecules as used herein include antisense or sense oligonucleotides. Sense oligonucleotides can, *e.g.*, be employed to block trancription by binding to the anti-sense strand. The antisense and sense oligonucleotide comprise a single-stranded nucleic acid sequence (either RNA or DNA) capable of binding to target mRNA (sense) or DNA (antisense) sequences for angiogenesis molecules. A preferred antisense molecule is for an angiogenesis sequences in Tables 1-8 , or for a ligand or activator thereof. Antisense or sense oligonucleotides, according to the present invention, comprise a fragment generally at least about 14 nucleotides, preferably from about 14 to 30 nucleotides. The ability to derive an antisense or a sense oligonucleotide, based upon a cDNA sequence encoding a given protein is described in, for example, Stein and Cohen (Cancer Res. 48:2659, 1988) and van der Krol et al. (BioTechniques 6:958, 1988).

Ribozymes

In addition to antisense polynucleotides, ribozymes can be used to target and inhibit transcription of angiogenesis-associated nucleotide sequences. A ribozyme is an RNA molecule that catalytically cleaves other RNA molecules. Different kinds of ribozymes have been described, including group I ribozymes, hammerhead ribozymes, hairpin ribozymes, RNase P, and axhead ribozymes (*see, e.g.,* Castanotto *et al.* (1994) *Adv. in Pharmacology* 25: 289-317 for a general review of the properties of different ribozymes).

The general features of hairpin ribozymes are described, *e.g.*, in Hampel *et al.* (1990) *Nucl. Acids Res.* 18: 299-304; Hampel *et al.* (1990) European Patent Publication No. 0

360 257; U.S. Patent No. 5,254,678. Methods of preparing are well known to those of skill in the art (*see, e.g.*, Wong-Staal *et al.*, WO 94/26877; Ojwang *et al.* (1993) *Proc. Natl. Acad. Sci.* USA 90: 6340-6344; Yamada *et al.* (1994) *Human Gene Therapy* 1: 39-45; Leavitt *et al.* (1995) *Proc. Natl. Acad. Sci. USA* 92: 699-703; Leavitt *et al.* (1994) *Human Gene Therapy* 5: 1151-120; and Yamada *et al.* (1994) *Virology* 205: 121-126).

Polynucleotide modulators of angiogenesis may be introduced into a cell containing the target nucleotide sequence by formation of a conjugate with a ligand binding molecule, as described in WO 91/04753. Suitable ligand binding molecules include, but are not limited to, cell surface receptors, growth factors, other cytokines, or other ligands that bind to cell surface receptors. Preferably, conjugation of the ligand binding molecule does not substantially interfere with the ability of the ligand binding molecule to bind to its corresponding molecule or receptor, or block entry of the sense or antisense oligonucleotide or its conjugated version into the cell. Alternatively, a polynucleotide modulator of angiogenesis may be introduced into a cell containing the target nucleic acid sequence, *e.g.*, by formation of an polynucleotide-lipid complex, as described in WO 90/10448. It is understood that the use of antisense molecules or knock out and knock in models may also be used in screening assays as discussed above, in addition to methods of treatment.

Thus, in one embodiment, methods of modulating angiogenesis in cells or organisms are provided. In one embodiment, the methods comprise administering to a cell an anti-angiogenesis antibody that reduces or eliminates the biological activity of an endogeneous angiogenesis protein. Alternatively, the methods comprise administering to a cell or organism a recombinant nucleic acid encoding an angiogenesis protein. This may be accomplished in any number of ways. In a preferred embodiment, for example when the angiogenesis sequence is down-regulated in angiogenesis, such state may be reversed by increasing the amount of angiogenesis gene product in the cell. This can be accomplished, *e.g.*, by overexpressing the endogeneous angiogenesis gene or administering a gene encoding the angiogenesis sequence, using known gene-therapy techniques, for example. In a preferred embodiment, the gene therapy techniques include the incorporation of the exogenous gene using enhanced homologous recombination (EHR), for example as described in PCT/US93/03868, hereby incorporated by reference in its entireity. Alternatively, for example when the angiogenesis sequence is up-regulated in angiogenesis, the activity of the endogeneous angiogenesis gene is decreased, for example by the administration of a angiogenesis antisense nucleic acid or other inhibitor, such as RNAi.

In one embodiment, the angiogenesis eproteins of the present invention may be used to generate polyclonal and monoclonal antibodies to angiogenesis proteins. Similarly, the angiogenesis proteins can be coupled, using standard technology, to affinity chromatography columns. These columns may then be used to purify angiogenesis antibodies useful for production, diagnostic, or therapeutic purposes. In a preferred embodiment, the antibodies are generated to epitopes unique to a angiogenesis protein; that is, the antibodies show little or no cross-reactivity to other proteins. The angiogenesis antibodies may be coupled to standard affinity chromatography columns and used to purify angiogenesis proteins. The antibodies may also be used as blocking polypeptides, as outlined above, since they will specifically bind to the angiogenesis protein.

Methods of identifying variant angiogenesis-associated sequences

Without being bound by theory, expression of various angiogenesis sequences is correlated with angiogenesis. Accordingly, disorders based on mutant or variant angiogenesis genes may be determined. In one embodiment, the invention provides methods for identifying cells containing variant angiogenesis genes, *e.g.*, determining all or part of the sequence of at least one endogeneous angiogenesis genes in a cell. This may be accomplished using any number of sequencing techniques. In a preferred embodiment, the invention provides methods of identifying the angiogenesis genotype of an individual, *e.g.*, determining all or part of the sequence of at least one angiogenesis gene of the individual. This is generally done in at least one tissue of the individual, and may include the evaluation of a number of tissues or different samples of the same tissue. The method may include comparing the sequence of the sequenced angiogenesis gene to a known angiogenesis gene, *i.e.*, a wild-type gene.

The sequence of all or part of the angiogenesis gene can then be compared to the sequence of a known angiogenesis gene to determine if any differences exist. This can be done using any number of known homology programs, such as Bestfit, etc. In a preferred embodiment, the presence of a a difference in the sequence between the angiogenesis gene of the patient and the known angiogenesis gene correlates with a disease state or a propensity for a disease state, as outlined herein.

In a preferred embodiment, the angiogenesis genes are used as probes to determine the number of copies of the angiogenesis gene in the genome.

In another preferred embodiment, the angiogenesis genes are used as probes to determine the chromosomal localization of the angiogenesis genes. Information such as chromosomal localization finds use in providing a diagnosis or prognosis in particular when chromosomal abnormalities such as translocations, and the like are identified in the angiogenesis gene locus.

Administration of pharmaceutical and vaccine compositions

In one embodiment, a therapeutically effective dose of an angiogenesis protein or modulator thereof, is administered to a patient. By "therapeutically effective dose" herein is meant a dose that produces effects for which it is administered. The exact dose will depend on the purpose of the treatment, and will be ascertainable by one skilled in the art using known techniques (*e.g.*, Ansel *et al.*, Pharmaceuitcal Dosage Forms and Drug Delivery, Lippincott, Williams & Wilkins Publishers, ISBN:0683305727; Lieberman (1992) Pharmaceutical Dosage Forms (vols. 1-3), Dekker, ISBN 0824770846, 082476918X, 0824712692, 0824716981; Lloyd (1999) The Art, Science and Technology of Pharmaceutical Compounding, Amer. Pharmacutical Assn, ISBN 0917330889; and Pickar (1999) Dosage Calculations, Delmar Pub, ISBN 0766805042). As is known in the art, adjustments for angiogenesis degradation, systemic versus localized delivery, and rate of new protease synthesis, as well as the age, body weight, general health, sex, diet, time of administration, drug interaction and the severity of the condition may be necessary, and will be ascertainable with routine experimentation by those skilled in the art.

A "patient" for the purposes of the present invention includes both humans and other animals, particularly mammals. Thus the methods are applicable to both human therapy and veterinary applications. In the preferred embodiment the patient is a mammal, preferably a primate, and in the most preferred embodiment the patient is human.

The administration of the angiogenesis proteins and modulators thereof of the present invention can be done in a variety of ways as discussed above, including, but not limited to, orally, subcutaneously, intravenously, intranasally, transdermally, intraperitoneally, intramuscularly, intrapulmonary, vaginally, rectally, or intraocularly. In some instances, for example, in the treatment of wounds and inflammation, the angiogenesis proteins and modulators may be directly applied as a solution or spray.

The pharmaceutical compositions of the present invention comprise an angiogenesis protein in a form suitable for administration to a patient. In the preferred embodiment, the pharmaceutical compositions are in a water soluble form, such as being present as pharmaceutically acceptable salts, which is meant to include both acid and base addition salts. "Pharmaceutically acceptable acid addition salt" refers to those salts that retain the biological effectiveness of the free bases and that are not biologically or otherwise undesirable, formed with inorganic acids such as hydrochloric acid, hydrobromic acid, sulfuric acid, nitric acid, phosphoric acid and the like, and organic acids such as acetic acid, propionic acid, glycolic acid, pyruvic acid, oxalic acid, maleic acid, malonic acid, succinic acid, fumaric acid, tartaric acid, citric acid, benzoic acid, cinnamic acid, mandelic acid, methanesulfonic acid, ethanesulfonic acid, p-toluenesulfonic acid, salicylic acid and the like. "Pharmaceutically acceptable base addition salts" include those derived from inorganic bases such as sodium, potassium, lithium, ammonium, calcium, magnesium, iron, zinc, copper, manganese, aluminum salts and the like. Particularly preferred are the ammonium, potassium, sodium, calcium, and magnesium salts. Salts derived from pharmaceutically acceptable organic non-toxic bases include salts of primary, secondary, and tertiary amines, substituted amines including naturally occurring substituted amines, cyclic amines and basic ion exchange resins, such as isopropylamine, trimethylamine, diethylamine, triethylamine, tripropylamine, and ethanolamine.

The pharmaceutical compositions may also include one or more of the following: carrier proteins such as serum albumin; buffers; fillers such as microcrystalline cellulose, lactose, corn and other starches; binding agents; sweeteners and other flavoring agents; coloring agents; and polyethylene glycol.

The pharmaceutical compositions can be administered in a variety of unit dosage forms depending upon the method of administration. For example, unit dosage forms suitable for oral administration include, but are not limited to, powder, tablets, pills, capsules and lozenges. It is recognized that angiogenesis protein modulators (*e.g.*, antibodies, antisense constructs, ribozymes, small organic molecules, *etc.*) when administered orally, should be protected from digestion. This is typically accomplished either by complexing the molecule(s) with a composition to render it resistant to acidic and enzymatic hydrolysis, or by packaging the molecule(s) in an appropriately resistant carrier, such as a liposome or a protection barrier. Means of protecting agents from digestion are well known in the art.

The compositions for administration will commonly comprise an angiogenesis protein modulator dissolved in a pharmaceutically acceptable carrier, preferably an aqueous carrier. A variety of aqueous carriers can be used, *e.g.*, buffered saline and the like. These solutions are sterile and generally free of undesirable matter. These compositions may be sterilized by conventional, well known sterilization techniques. The compositions may contain pharmaceutically acceptable auxiliary substances as required to approximate physiological conditions such as pH adjusting and buffering agents, toxicity adjusting agents and the like, for example, sodium acetate, sodium chloride, potassium chloride, calcium chloride, sodium lactate and the like. The concentration of active agent in these formulations can vary widely, and will be selected primarily based on fluid volumes, viscosities, body weight and the like in accordance with the particular mode of administration selected and the patient's needs (*e.g.*, *Remington's Pharmaceutical Science*, 15th ed., Mack Publishing Company, Easton, Pennsylvania (1980) and Goodman and Gillman, *The Pharmacologial Basis of Therapeutics*,(Hardman, J.G, Limbird, L.E, Molinoff, P.B., Ruddon, R.W, and Gilman, A.G.,eds) TheMcGraw-Hill Companies, Inc.,1996).

Thus, a typical pharmaceutical composition for intravenous administration would be about 0.1 to 10 mg per patient per day. Dosages from 0.1 up to about 100 mg per patient per day may be used, particularly when the drug is administered to a secluded site and not into the blood stream, such as into a body cavity or into a lumen of an organ. Substantially higher dosages are possible in topical administration. Actual methods for preparing parenterally administrable compositions will be known or apparent to those skilled in the art, *e.g.*, *Remington's Pharmaceutical Science* and Goodman and Gillman, *The Pharmacologial Basis of Therapeutics*, *supra.*

The compositions containing modulators of angiogenesis proteins can be administered for therapeutic or prophylactic treatments. In therapeutic applications, compositions are administered to a patient suffering from a disease (*e.g.*, a cancer) in an amount sufficient to cure or at least partially arrest the disease and its complications. An amount adequate to accomplish this is defined as a "therapeutically effective dose." Amounts effective for this use will depend upon the severity of the disease and the general state of the patient's health. Single or multiple administrations of the compositions may be administered depending on the dosage and frequency as required and tolerated by the patient. In any event, the composition should provide a sufficient quantity of the agents of this invention to effectively treat the patient. An amount of modulator that is capable of preventing or slowing the development of cancer in a mammal is referred to as a "prophylactically effective dose." The particular dose required for a prophylactic treatment will depend upon the medical condition and history of the mammal, the particular cancer being prevented, as well as other factors such as age, weight, gender, administration route, efficiency, *etc.* Such prophylactic treatments may be used, *e.g.*, in a mammal who has previously had cancer to prevent a recurrence of the cancer, or in a mammal who is suspected of having a significant likelihood of developing cancer.

It will be appreciated that the present angiogenesis protein-modulating compounds can be administered alone or in combination with additional angiogenesis modulating compounds or with other therapeutic agent, *e.g.*, other anti-cancer agents or treatments.

In numerous embodiments, one or more nucleic acids, *e.g.*, polynucleotides comprising nucleic acid sequences set forth in Tables 1-8 , such as antisense polynucleotides or ribozymes, will be introduced into cells, *in vitro* or *in vivo*. The present invention provides methods, reagents, vectors, and cells useful for expression of angiogenesis-associated polypeptides and nucleic acids using *in vitro* (cell-free), *ex vivo* or *in vivo* (cell or organism-based) recombinant expression systems.

The particular procedure used to introduce the nucleic acids into a host cell for expression of a protein or nucleic acid is application specific. Many procedures for introducing foreign nucleotide sequences into host cells may be used. These include the use of calcium phosphate transfection, spheroplasts, electroporation, liposomes, microinjection, plasma vectors, viral vectors and any of the other well known methods for introducing cloned genomic DNA, cDNA, synthetic DNA or other foreign genetic material into a host cell (*see, e.g.*, Berger and Kimmel, *Guide to Molecular Cloning Techniques, Methods in Enzymology* volume 152 Academic Press, Inc., San Diego, CA (Berger), F.M. Ausubel *et al.*, eds., Current Protocols, a joint venture between Greene Publishing Associates, Inc. and John Wiley & Sons, Inc., (supplemented through 1999), and Sambrook *et al.*, *Molecular Cloning - A Laboratory Manual* (2nd Ed.), Vol. 1-3, Cold Spring Harbor Laboratory, Cold Spring Harbor, New York, 1989.

In a preferred embodiment, angiogenesis proteins and modulators are administered as therapeutic agents, and can be formulated as outlined above. Similarly, angiogenesis genes (including both the full-length sequence, partial sequences, or regulatory sequences of the angiogenesis coding regions) can be administered in a gene therapy application. These angiogenesis genes can include antisense applications, either as gene therapy (i.e. for incorporation into the genome) or as antisense compositions, as will be appreciated by those in the art.

Angiogenesis polypeptides and polynucleotides can also be administered as vaccine compositions to stimulate HTL, CTL and antibody responses.. Such vaccine compositions can include, for example, lipidated peptides (*e.g.*,Vitiello, A. *et al.*, *J. Clin. Invest.* 95:341, 1995), peptide compositions encapsulated in poly(DL-lactide-co-glycolide) ("PLG") microspheres (*see, e.g.*, Eldridge, *et al.*, *Molec. Immunol.* 28:287-294, 1991: Alonso *et al.*, *Vaccine* 12:299-306, 1994; Jones *et al.*, *Vaccine* 13:675-681, 1995), peptide compositions contained in immune stimulating complexes (ISCOMS) (*see*, *e.g.*, Takahashi *et al.*, *Nature* 344:873-875, 1990; Hu *et al.*, *Clin Exp Immunol.* 113:235-243, 1998), multiple antigen peptide systems (MAPs) (*see e.g.*, Tam, J. P., *Proc. Natl. Acad. Sci. U.S.A.* 85:5409-5413, 1988; Tam, J.P., *J. Immunol. Methods* 196:17-32, 1996), peptides formulated as multivalent peptides; peptides for use in ballistic delivery systems, typically crystallized peptides, viral delivery vectors (Perkus, M. E. *et al.*, In: *Concepts in vaccine development*, Kaufmann, S. H. E., ed., p. 379, 1996; Chakrabarti, S. *et al.*, *Nature* 320:535, 1986; Hu, S. L. *et al.*, *Nature* 320:537, 1986; Kieny, M.-P. *et al.*, *AIDS Bio/Technology* 4:790, 1986; Top, F. H. *et al.*, *J. Infect. Dis.* 124:148, 1971; Chanda, P. K. *et al.*, *Virology* 175:535, 1990), particles of viral or synthetic origin (*e.g.*, Kofler, N. *et al.*, *J. Immunol. Methods.* 192:25, 1996; Eldridge, J. H. *et al.*, *Sem. Hematol.* 30:16, 1993; Falo, L. D., Jr. *et al.*, *Nature Med.* 7:649, 1995), adjuvants (Warren, H. S., Vogel, F. R., and Chedid, L. A. *Annu. Rev. Immunol.* 4:369, 1986; Gupta, R. K. *et al.*, *Vaccine* 11:293, 1993), liposomes (Reddy, R. *et al.*, *J. Immunol.* 148:1585, 1992; Rock, K. L., *Immunol. Today* 17:131, 1996), or, naked or particle absorbed cDNA (Ulmer, J. B. *et al.*, *Science* 259:1745, 1993; Robinson, H. L., Hunt, L. A., and Webster, R. G., *Vaccine* 11:957, 1993; Shiver, J. W. *et al.*, In: *Concepts in vaccine development*, Kaufmann, S. H. E., ed., p. 423, 1996; Cease, K. B., and Berzofsky, J. A., *Annu. Rev. Immunol.* 12:923, 1994 and Eldridge, J. H. *et al.*, *Sem. Hematol.* 30:16, 1993). Toxin-targeted delivery technologies, also known as receptor mediated targeting, such as those of Avant Immunotherapeutics, Inc. (Needham, Massachusetts) may also be used.

Vaccine compositions often include adjuvants. Many adjuvants contain a substance designed to protect the antigen from rapid catabolism, such as aluminum hydroxide or mineral oil, and a stimulator of immune responses, such as lipid A, *Bortadella pertussis* or *Mycobacterium tuberculosis* derived proteins. Certain adjuvants are commercially available as, for example, Freund's Incomplete Adjuvant and Complete Adjuvant (Difco Laboratories, Detroit, MI); Merck Adjuvant 65 (Merck and Company, Inc., Rahway, NJ); AS-2 (SmithKline Beecham, Philadelphia, PA); aluminum salts such as aluminum hydroxide gel (alum) or aluminum phosphate; salts of calcium, iron or zinc; an insoluble suspension of acylated tyrosine; acylated sugars; cationically or anionically derivatized polysaccharides; polyphosphazenes; biodegradable microspheres; monophosphoryl lipid A and quil A. Cytokines, such as GM-CSF, interleukin-2, -7, -12, and other like growth factors, may also be used as adjuvants.

Vaccines can be administered as nucleic acid compositions wherein DNA or RNA encoding one or more of the polypeptides, or a fragment thereof, is administered to a patient. This approach is described, for instance, in Wolff *et. al.*, *Science* 247:1465 (1990) as well as U.S. Patent Nos. 5,580,859; 5,589,466; 5,804,566; 5,739,118; 5,736,524; 5,679,647; WO 98/04720; and in more detail below. Examples of DNA-based delivery technologies include "naked DNA", facilitated (bupivicaine, polymers, peptide-mediated) delivery, cationic lipid complexes, and particle-mediated ("gene gun") or pressure-mediated delivery (*see, e.g.*, U.S. Patent No. 5,922,687).

For therapeutic or prophylactic immunization purposes, the peptides of the invention can be expressed by viral or bacterial vectors. Examples of expression vectors include attenuated viral hosts, such as vaccinia or fowlpox. This approach involves the use of vaccinia virus, for example, as a vector to express nucleotide sequences that encode angiogenic polypeptides or polypeptide fragments. Upon introduction into a host, the recombinant vaccinia virus expresses the immunogenic peptide, and thereby elicits an immune response. Vaccinia vectors and methods useful in immunization protocols are described in, *e.g.*, U.S. Patent No. 4,722,848. Another vector is BCG (Bacille Calmette Guerin). BCG vectors are described in Stover *et al.*, *Nature* 351:456-460 (1991). A wide variety of other vectors useful for therapeutic administration or immunization *e.g.* adeno and adeno-associated virus vectors, retroviral vectors, *Salmonella typhi* vectors, detoxified anthrax toxin vectors, and the like, will be apparent to those skilled in the art from the description herein (see, *e.g.*, Shata *et al.* (2000) Mol Med Today, 6: 66-71; Shedlock *et al.*, *J Leukoc Biol* 68,:793-806, 2000; Hipp *et al.*, *In Vivo* 14:571-85, 2000).

Methods for the use of genes as DNA vaccines are well known, and include placing an angiogenesis gene or portion of an angiogenesis gene under the control of a regulatable promoter or a tissue-specific promoter for expression in an angiogenesis patient. The angiogenesis gene used for DNA vaccines can encode full-length angiogenesis proteins, but more preferably encodes portions of the angiogenesis proteins including peptides derived from the angiogenesis protein. In one embodiment, a patient is immunized with a DNA vaccine comprising a plurality of nucleotide sequences derived from an angiogenesis gene. For example, angiogenesis-associated genes or sequence encoding subfragments of an angiogenesis protein are introduced into expression vectors and tested for their immunogenicity in the context of Class I MHC and an ability to generate cytotoxic T cell responses. This procedure provides for production of cytotoxic T cell responses against cells which present antigen, including intracellular epitopes.

In a preferred embodiment, the DNA vaccines include a gene encoding an adjuvant molecule with the DNA vaccine. Such adjuvant molecules include cytokines that increase the immunogenic response to the angiogenesis polypeptide encoded by the DNA vaccine. Additional or alternative adjuvants are available.

In another preferred embodiment angiogenesis genes find use in generating animal models of angiogenesis. When the angiogenesis gene identified is repressed or diminished in angiogenesic tissue, gene therapy technology, *e.g.*, wherein antisense RNA directed to the angiogenesis gene will also diminish or repress expression of the gene. Animal models of angiogenesis find use in screening for modulators of an angiogenesis-associated sequence or modulators of angiogenesis. Similarly, transgenic animal technology including gene knockout technology, for example as a result of homologous recombination with an appropriate gene targeting vector, will result in the absence or increased expression of the angiogenesis protein. When desired, tissue-specific expression or knockout of the angiogenesis protein may be necessary.

It is also possible that the angiogenesis protein is overexpressed in angiogenesis. As such, transgenic animals can be generated that overexpress the angiogenesis protein. Depending on the desired expression level, promoters of various strengths can be employed to express the transgene. Also, the number of copies of the integrated transgene can be determined and compared for a determination of the expression level of the transgene. Animals generated by such methods find use as animal models of angiogenesis and are additionally useful in screening for modulators to treat angiogenesis or to evaluate a therapeutic entity.

Kits for Use in Diagnostic and/or Prognostic Applications

For use in diagnostic, research, and therapeutic applications suggested above, kits are also provided by the invention. In the diagnostic and research applications such kits may include any or all of the following: assay reagents, buffers, angiogenesis-specific nucleic acids or antibodies, hybridization probes and/or primers, antisense polynucleotides, ribozymes, dominant negative angiogenesis polypeptides or polynucleotides, small molecules inhibitors of angiogenesis-associated sequences *etc.* A therapeutic product may include sterile saline or another pharmaceutically acceptable emulsion and suspension base.

In addition, the kits may include instructional materials containing directions (*i.e.*, protocols) for the practice of the methods of this invention. While the instructional materials typically comprise written or printed materials they are not limited to such. Any medium capable of storing such instructions and communicating them to an end user is contemplated by this invention. Such media include, but are not limited to electronic storage media (*e.g.*, magnetic discs, tapes, cartridges, chips), optical media (*e.g.*, CD ROM), and the like. Such media may include addresses to internet sites that provide such instructional materials.

The present invention also provides for kits for screening for modulators of angiogenesis-associated sequences. Such kits can be prepared from readily available materials and reagents. For example, such kits can comprise one or more of the following materials: an angiogenesis-associated polypeptide or polynucleotide, reaction tubes, and instructions for testing angiogenic-associated activity. Optionally, the kit contains biologically active angiogenesis protein. A wide variety of kits and components can be prepared according to the present invention, depending upon the intended user of the kit and the particular needs of the user. Diagnosis would typically involve evaluation of a plurality of genes or products. The genes will be selected based on correlations with important parameters in disease which may be identified in historical or outcome data.

It is understood that the examples described above in no way serve to limit the true scope of this invention, but rather are presented for illustrative purposes. All publications, sequences of accession numbers, and patent applications cited in this specification are herein incorporated by reference as if each individual publication or patent application were specifically and individually indicated to be incorporated by reference.

EXAMPLES

Example 1: Tissue Preparation, Labeling Chips, and Fingerprints

Purify total RNA from tissue using TRIzol Reagent

Homogenize tissue samples in 1ml of TRIzol per 50mg of tissue using a Polytron 3100 homogenizer. The generator/probe used depends upon the tissue size. A generator that is too large for the amount of tissue to be homogenized will cause a loss of sample and lower RNA yield. TRIzol is added directly to frozen tissue, which is then homogenize. Following homogenization, insoluble material is removed by centrifugation at 7500 x g for 15 min in a Sorvall superspeed or 12,000 x g for 10 min. in an Eppendorf centrifuge at 4°C. The clear homogenate is transferred to a new tube for use. The samples may be frozen now at -60° to -70°C (and kept for at least one month). The homogenate is mixed with 0.2ml of chloroform per 1ml of TRIzol reagent used in the original homogenization and incubated at room temp. for 2-3 minutes. The aqueous phase is then separated by centrifugation and transferred to a fresh tube and the RNA precipitated using isopropyl alcohol. The pellet is isolated by centrifugation, washed, air-dried, resuspended in an appropriate volume of DEPC H_20, and the absorbance measured.

Purification of poly A+ mRNA from total RNA is performed as follows. Heat an oligotex suspension to 37°C and mixing immediately before adding to RNA. The Elution Buffer is heated at 70°C. Warm up 2 x Binding Buffer at 65°C if there is precipitate in the buffer. Mix total RNA with DEPC-treated water, 2 x Binding Buffer, and Oligotex according to Table 2 on page 16 of the Oligotex Handbook. Incubate for 3 minutes at 65°C. Incubate for 10 minutes at room temperature. Centrifuge for 2 minutes at 14,000 to 18,000 g. Remove supernatant without disturbing Oligotex pellet. A little bit of solution can be left behind to reduce the loss of Oligotex. Gently resuspend in Wash Buffer OW2 and pipet onto spin column. Centrifuge the spin column at full speed for 1 minute. Transfer spin column to a new collection tube and gently resuspend in Wash Buffer OW2 and centrifuge as describe herein. Transfer spin column to a new tube and elute with 20 to 100 ul of preheated (70oC) Elution Buffer. Gently resuspend Oligotex resin by pipetting up and down. Centrifuge as above. Repeat elution with fresh elution buffer or use first eluate to keep the elution volume low. Read absorbance, using diluted Elution Buffer as the blank. Before proceeding with cDNA synthesis, precipitate the mRNA as follows: add 0.4 vol. of 7.5 M NH4OAc + 2.5 vol. of cold 100% ethanol. Precipitate at -20oC 1 hour to overnight (or 20-30 min. at -70oC). Centrifuge at 14,000-16,000 x g for 30 minutes at 4oC. Wash pellet with 0.5ml of 80%ethanol (-20oC) then centrifuge at 14,000-16,000 x g for 5 minutes at room temperature.. Repeat 80% ethanol wash. Air dry the ethanol from the pellet in the hood.. Suspend pellet in DEPC H_20 at 1ug/ul concentration.

To further Clean up total RNA using Qiagen's RNeasy kit, add no more than 100ug to an RNeasy column. Adjust sample to a volume of 100ul with RNase-free water. Add 350ul Buffer RLT then 250ul ethanol (100%) to the sample. Mix by pipetting (do not centrifuge) then apply sample to an RNeasy mini spin column. Centrifuge for 15 sec at >10,000rpm. Transfer column to a new 2-ml collection tube. Add 500ul Buffer RPE and centrifuge for 15 sec at >10,000rpm. Discard flowthrough. Add 500ul Buffer RPE and centrifuge for 15 sec at >10,000rpm. Discard flowthrough then centrifuge for 2 min at maximum speed to dry column membrane. Transfer column to a new 1.5-ml collection tube and apply 30-50ul of RNase-free water directly onto column membrane. Centrifuge 1 min at >10,000rpm. Repeat elution. and read absorbance.

cDNA synthesis using Gibco's "SuperScript Choice System for cDNA Synthesis" kit

First Strand cDNA synthesis is performed as follows. Use 5ug of total RNA or 1ug of polyA+ mRNA as starting material. For total RNA, use 2ul of SuperScript RT. For polyA+ mRNA, use 1ul of SuperScript RT. Final volume of first strand synthesis mix is 20ul. RNA must be in a volume no greater than 10ul. Incubate RNA with 1ul of 100pmol T7-T24 oligo for 10 min at 70C. On ice, add 7 ul of: 4ul 5X 1st Strand Buffer, 2ul of 0.1M DTT, and 1 ul of 10mM dNTP mix. Incubate at 37C for 2 min then add SuperScript RT. Incubate at 37C for 1 hour.

For the second strand synthesis, place 1st strand reactions on ice and add: 91ul DEPC H_20; 30ul 5X 2nd Strand Buffer; 3ul 10mM dNTP mix; 1ul 10U/ul E.coli DNA Ligase; 4ul 10U/ul E.coli DNA Polymerase; and 1ul 2U/ul RNase H. Mix and incubate 2 hours at 16C. Add 2ul T4 DNA Polymerase. Incubate 5 min at 16C. Add 10ul of 0.5M EDTA. A further clean-up of DNA is performed using phenol:chloroform:isoamyl Alcohol (25:24:1) purification.

In vitro Transcription (IVT) and labeling with biotin is performed as follows: Pipet 1.5ul of cDNA into a thin-wall PCR tube. Make NTP labeling mix by combining 2ul T7 10xATP (75mM) (Ambion); 2ul T7 10xGTP (75mM) (Ambion); 1.5ul T7 10xCTP (75mM) (Ambion); 1.5ul T7 10xUTP (75mM) (Ambion); 3.75ul 10mM Bio-11-UTP (Boehringer-Mannheim/Roche or Enzo); 3.75ul 10mM Bio-16-CTP (Enzo); 2ul 10x T7 transcription buffer (Ambion); and 2ul 10x T7 enzyme mix (Ambion). The final volume is 20ul. Incubate 6 hours at 37°C in a PCR machine. The RNA can be furthered cleaned.

Fragmentation is performed as follows. 15 ug of labeled RNA is usually fragmented. Try to minimize the fragmentation reaction volume; a 10 ul volume is recommended but 20 ul is all right. Do not go higher than 20 ul because the magnesium in the fragmentation buffer contributes to precipitation in the hybridization buffer. Fragment RNA by incubation at 94 C for 35 minutes in 1 x Fragmentation buffer (5 x Fragmentation buffer is 200 mM Tris-acetate, pH 8.1; 500 mM KOAc; 150 mM MgOAc). The labeled RNA transcript can be analyzed before and after fragmentation. Samples can be heated to 65°C for 15 minutes and electrophoresed on 1% agarose/TBE gels to get an approximate idea of the transcript size range

For hybridization, 200 ul (10ug cRNA) of a hybridization mix is put on the chip. If multiple hybridizations are to be done (such as cycling through a 5 chip set), then it is recommended that an initial hybridization mix of 300 ul or more be made. The hybridization mix is: fragment labeled RNA (50ng/ul final conc.); 50 pM 948-b control oligo; 1.5 pM BioB; 5 pM BioC; 25 pM BioD; 100 pM CRE; 0.1mg/ml herring sperm DNA; 0.5mg/ml acetylated BSA; and 300 ul with 1xMES hyb buffer.

Labeling is performed as follows: The hybridization reaction includes non-biotinylated IVT (purified by RNeasy columns); IVT antisense RNA 4 µg:µl; random Hexamers (1 µg/µl) 4 µl and water to 14 ul. The reaciton is incubated at 70°C, 10 min. Reverse transcriptionis performed in the following reaction: 5X First Strand (BRL) buffer, 6 µl; 0.1 M DTT, 3 µl; 50X dNTP mix, 0.6 µl; H_2O, 2.4 µl; Cy3 or Cy5 dUTP (1mM), 3 µl; SS RT II (BRL), 1 µl in a final volume of 16 µl. Add to hybridization reaction. Incubate 30 min., 42°C. Add 1 µl SSII and incubate another hour. Put on ice. 50X dNTP mix (25mM of cold dATP, dCTP, and dGTP, 10mM of dTTP: 25 µl each of 100mM dATP, dCTP, and dGTP; 10 µl of 100mM dTTP to 15 µl H2O. dNTPs from Pharmacia)

RNA degradation is performed as follows. Add 86 µl H2O, 1.5 µl 1M NaOH/ 2mM EDTA and incubate at 65°C, 10 min.. For U-Con 30, 500 µl TE/sample spin at 7000g for 10 min, save flow through for purification. For Qiagen purification, suspend u-con recovered material in 500µl buffer PB and proceed using Qiagen protocol. For DNAse digestion, add 1 ul of 1/100 dil of DNAse/30ul Rx and incubate at 37°C for 15 min. Incubate at 5 min 95°C to denature the DNAse/

For sample preparation, add Cot-1 DNA, 10 µl; 50X dNTPs, 1 µl; 20X SSC, 2.3 µl; Na pyro phosphate, 7.5 µl; 10mg/ml Herring sperm DNA; 1ul of 1/10 dilution to 21.8 final vol. Dry in speed vac. Resuspend in 15 µl H20. Add 0.38 µl 10% SDS. Heat 95°C, 2 min and slow cool at room temp. for 20 min. Put on slide and hybridize overnight at 64°C. Washing after the hybridization: 3X SSC/0.03% SDS: 2 min., 37.5 mls 20X SSC+0.75mls 10% SDS in 250mls H2O; 1X SSC: 5 min., 12.5 mls 20X SSC in 250mls H2O; 0.2X SSC: 5 min., 2.5 mls 20X SSC in 250mls H2O. Dry slides and scan at appropiate PMT's and channels.

Example 2. A model of angiogenesis is used to determine expression in angiogenesis

In the model of angiogenesis used to determine expression of angiogenesis-associated sequences, human umbilical vein endothelial cells (HUVEC) were obtained, *e.g.*, as passage 1 (p1) frozen cells from Cascade Biologics (Oregon) and grown in maintenance medium: Medium 199 (Life Technologies) supplemented with 20% pooled human serum, 100 mg/ml heparin and 75 mg/ml endothelial cell growth supplements (Sigma) and gentamicin (Life Technologies). An *in vitro* cell system model was used in which $2x10^5$ HUVECs were cultured in 0.5 ml 3 mgs/ml plasminogen-depleted fibrinogen (Calbiochem, San Diego, CA) that was polymerized by the addition of 1 unit of maintenance medium supplemented with 100 ng/ml VEGF and HGF and 10 ng/ml TGF-a (R&D Systems, Minneapolis,MN) added (growth medium). The growth medium was replaced every 2 days. Samples for RNA were collected, *e.g.*, at 0, 2, 6, 15, 24, 48, and 96 hours of culture. The fibrin clots were placed in Trizol (Life Technologies) and disrupted using a Tissuemizer. Thereafter standard procedures were used for extracting the RNA (*e.g.*, Example 1).

Angiogenesis associated sequences thus identified are shown in Tables 1-8 . As indicated, some of the Accession numbers include expression sequence tags (ESTs). Thus, in one embodiment herein, genes within an expression profile, also termed expression profile genes, include ESTs and are not necessarily full length.

TABLE 1:

Pkey:	Unique Eos probeset identifier number
Accession:	Accession number used for previous patent fillings
ExAccn:	Exemplar Accession number, Genbank accession number
UnigeneID:	Unigene number
Unigene Title:	Unigene gene title

Pkey	Accession	ExAccn	UnigeneID	UnigeneTitle
134404	AB000450	AB000450	Hs.82771	vaccinia related kinase 2
121443	AB002380	AF180681	Hs.6582	Rho guanine exchange factor (GEF) 12
100082	AB003103	AA130080	Hs.4295	proteasome (prosome, macropain) 26S subunit, non-ATPase, 12
132817	AB004884	N27852	Hs.57553	tousled-like kinase 2
130150	AF000573_ma1	BE094848	Hs.15113	homogentisate 1,2-dioxygenase (homogentisate oxidase)
100104	AF008937	AF008937	Hs.102178	syntaxin 16
130839	AF009301	AB011169	Hs.20141	similar to S. cerevisiae SSM4
427064	AF009368	AF029674	Hs.173422	KIAA1605 protein
100113	D00591	NM_001269	Hs.84746	chromosome condensation 1
133980	D00760	AA294921	Hs.250811	v-ral simian leukemia viral oncogene homolog B (ras related; GTP binding protein)
100129	D11139	AA469369	Hs.5831	tissue inhibitor of metalloproteinase 1 (erythroid potentiating activity, collagenase inhibitor)
100154	D14657	H60720	Hs.81892	KIAA0101 gene product
100169	D14878	AL037228	Hs.82043	D123 gene product
101956	D17716	NM_002410	Hs.121502	mannosyl (alpha-1,6-)-glycoprotein beta-1,6-N-acetyl-glucosaminyltransferase
100190	D21090	M91401	Hs.178658	RAD23 (S. cerevisiae) homolog B
134742	D26135	NM_001346	Hs.89462	diacylglycerol kinase, gamma (90kD)
100211	D26528	D26528	Hs.123058	DEAD/H (Asp-Glu-Ala-Asp/His) box polypeptide 7 (RNA helicase, 52kD)
100238	D30742	L24959	Hs.348	calcium/calmodulin-dependent protein kinase IV
130283	D31762	NM_012288	Hs.153954	TRAM-like protein
134237	D31765	D31765	Hs.170114	KIAA0061 protein
100248	D31888	NM_015156	Hs.78398	KIAA0071 protein
100256	D38128	D25418	Hs.393	prostaglandin I2 (prostacyclin) receptor (IP)
100262	D38500	D38500	Hs.278468	postmeiotic segregation increased 2-like 4
134329	D38551	N92036	Hs.81848	RAD21 (S. pombe) homolog
100281	D42087	AF091035	Hs.184627	KIAA0118 protein
100294	D49396	AA331881	Hs.75454	peroxiredoxin 3
100327	D55640	D55640		gb:Human monocyte PABL (pseudoautosomal boundary-like sequence) mRNA, clone Mo2.
100335	D63391	AW247529	Hs.6793	platelet-activating factor acetylhydrolase, isoform Ib, gamma subunit (29kD)
134495	D63477	D63477	Hs.84087	KIAA0143 protein
100338	D63483	D86864	Hs.57735	acetyl LDL receptor; SREC
135152	D64015	M96954	Hs.182741	TIA1 cytotoxic granule-associated RNA-binding protein-like 1
134269	D79990	NM_014737	Hs.80905	Ras association (RalGDS/AF-6) domain family 2
100372	D79997	NM_014791	Hs.184339	KIAA0175 gene product
134304	D80010	BE613486	Hs.81412	lipin 1
100394	D84276	D84284	Hs.66052	CD38 antigen (p45)
100405	D86425	AW291587	Hs.82733	nidogen 2
100418	D86978	D86978	Hs.84790	KIAA0225 protein
133154	D87012	D87012	Hs.194685	topoisomerase (DNA) III beta
134347	D87075	AF164142	Hs.82042	solute carrier family 23 (nucleobase transporters), member 1
128653	D87432	D87432	Hs.10315	solute carrier family 7 (cationic amino acid transporter, y+ system), member 6
100438	D87448	AA013051	Hs.91417	topoisomerase (DNA) II binding protein
134593	D87845	NM_000437	Hs.234392	platelet-activating factor acetylhydrolase 2 (40kD)
100481	HG1098-HT1098	X70377	Hs.121489	cystatin D
100552	HG2167-HT2237	AA019521	Hs.301946	lysosomal
100591	HG2415-HT2511	NM_004091	Hs.231444	Homo sapiens, Similar to hypothetical protein PRO1722, clone MGC:15692, mRNA, complete cds
100652	HG2825-HT2949	BE613608	Hs.142653	ret finger protein
100662	HG2887-HT3031_r		AI368680	Hs.816 SRY (sex determining region Y)-box 2
100899	HG4660-HT5073	AL039123	Hs.103042	microtubule-associated protein 1B
100905	HG4704-HT5146	L12260	Hs.172816	neuregulin 1
100945	HG884-HT884	AF002225	Hs.180686	ubiquitin protein ligase E3A (human papilloma virus E6-associated protein, Angelman syndrome)
100950	HG919-HT919	AF128542	Hs.166846	polymerase (DNA directed), epsilon
100964	J00212_f	J00212		Empirically selected from AFFX single probeset
135407	J04029	J04029	Hs.99936	keratin 10 (epidermolytic hyperkeratosis; keratosis palmaris et plantaris)
130149	J04031	AW067805	Hs.172665	methylenetetrahydrofolate dehydrogenase (NADP+ dependent), methenyltetrahydrofolate
131877	J04088	J04088	Hs.156346	topoisomerase (DNA) II alpha (170kD)
101016	J04543	J04543	Hs.78637	annexin A7
134786	L06139	T29618	Hs.89640	TEK tyrosine kinase, endothelial (venous malformations, multiple cutaneous and mucosal)
134100	L07540	AA460085	Hs.171075	replication factor C (activator 1) 5 (36.5kD)
134078	L08895	L08895	Hs.78995	MADS box transcription enhancer factor 2, polypeptide C (myocyte enhancer factor 2C)
101132	L11239	L11239	Hs.36993	gastrulation brain homeo box 1
134849	L11353	BE409525	Hs.902	neurofibromin 2 (bilateral acoustic neuroma)
106432	L13773	AK000310	Hs.17138	hypothetical protein FLJ20303

101152	L13800	AI984625	Hs.9884	spindle pole body protein
135397	L14922	L14922	Hs.166563	replication factor C (activator 1) 1 (145kD)
131687	L15189	BE297635	Hs.3069	heat shock 70kD protein 9B (mortalin-2)
101168	L15388	NM_005308	Hs.211569	G protein-coupled receptor kinase 5
421155	L16895	H87879	Hs.102267	lysyl oxidase
101226	L27476	AF083892	Hs.75608	tight junction protein 2 (zona occludens 2)
133975	L27624	C18356	Hs.295944	tissue factor pathway inhibitor 2
134739	L32976	NM_002419	Hs.89449	mitogen-activated protein kinase kinase kinase 11
130155	L33404	AA101043	Hs.151254	kallikrein 7 (chymotryptic, stratum corneum)
440538	L35263	W76332	Hs.79107	mitogen-activated protein kinase 14
132813	L37347	BE313625	Hs.57435	solute carrier family 11 (proton-coupled divalent metal ion transporters), member 2
101294	L40371	AF168418	Hs.116784	thyroid hormone receptor interactor 4
101300	L40391	BE535511	Hs.74137	transmembrane trafficking protein
101310	L41607	L41607	Hs.934	glucosaminyl (N-acetyl) transferase 2, I-branching enzyme
130344	L77566	AW250122	Hs.154879	DiGeorge syndrome critical region gene DGSI; likely ortholog of mouse expressed sequence 2 embryonic lethal
101381	M13928	AW675039	Hs.1227	aminolevulinate, delta-, dehydratase
101668	M14016	AW005903	Hs.78601	uroporphyrinogen decarboxylase
133780	M14219	AA557660	Hs.76152	decorin
101396	M15796	BE267931	Hs.78996	proliferating cell nuclear antigen
101447	M21305	M21305		gb:Human alpha satellite and satellite 3 junction DNA sequence.
101458	M22092	M22092		gb:Human neural cell adhesion molecule (N-CAM) gene, exon SEC and partial cds.
101470	M22898	NM_000546	Hs.1846	tumor protein p53 (Li-Fraumeni syndrome)
134604	M22995	NM_002884	Hs.865	RAP1A, member of RAS oncogene family
101478	M23379	NM_002890	Hs.758	RAS p21 protein activator (GTPase activating protein) 1
406698	M24364	X03068	Hs.73931	major histocompatibility complex, class II, DQ beta 1
133519	M24400	AW583062	Hs.74502	chymotrypsinogen B1
131185	M25753	BE280074	Hs.23960	cyclin B1
134116	M27691	R84694	Hs.79194	cAMP responsive element binding protein 1
133999	M28213	AA535244	Hs.78305	RAB2, member RAS oncogene family
130174	M29550	M29551	Hs.151531	protein phosphatase 3 (formerly 2B), catalytic subunit, beta isoform (calcineurin A beta)
129963	M29971	M29971	Hs.1384	O-6-methylguanine-DNA methyltransferase
132983	M30269	M30269	Hs.62041	nidogen (enactin)
133900	M31158	M31158	Hs.77439	protein kinase, cAMP-dependent, regulatory, type II, beta
101543	M31166	M31166	Hs.2050	pentaxin-related gene, rapidly induced by IL-1 beta
101545	M31210	BE246154	Hs.154210	endothelial differentiation, sphingolipid G-protein-coupled receptor, 1
101620	M55420	S55271	Hs.247930	Epsilon , IgE
134691	M59979	AW382987	Hs.88474	prostaglandin-endoperoxide synthase 1 (prostaglandin G/H synthase and cyclooxygenase)
133595	M62810	AA393273	Hs.75133	transcription factor 6-like 1 (mitochondrial transcription factor 1-like)
130425	M63838	AA243383	Hs.155530	interferon, gamma-inducible protein 16
101700	M64710	D90337	Hs.247916	natriuretic peptide precursor C
101714	M68874	M68874	Hs.211587	phospholipase A2, group IVA (cytosolic, calcium-dependent)
134246	M74524	D28459	Hs.80612	ubiquitin-conjugating enzyme E2A (RAD6 homolog)
101760	M80254	M80254	Hs.173125	peptidylprolyl isomerase F (cyclophilin F)
133948	M81780_cds3	X59960	Hs.77813	sphingomyelin phosphodiesterase 1, acid lysosomal (acid sphingomyelinase)
101791	M83822	M83822	Hs.62354	cell division cycle 4-like
101812	M86934	BE439894	Hs.78991	DNA segment, numerous copies, expressed probes (GS1 gene)
101813	M87338	NM_002914	Hs.139226	replication factor C (activator 1) 2 (40kD)
133396	M96326_rna1	M96326	Hs.72885	azurocidin 1 (cationic antimicrobial protein 37)
135152	M96954	M96954	Hs.182741	TIA1 cytotoxic granule-associated RNA-binding protein-like 1
129026	M98833	AL120297	Hs.108043	Friend leukemia virus integration 1
101901	S66793	H38026	Hs.308	arrestin 3, retinal (X-arrestin)
134831	S72370	AA853479	Hs.89890	pyruvate carboxylase
134039	S78569	NM_002290	Hs.78672	laminin, alpha 4
134395	S79873	AA456539	Hs.8262	lysosomal
101975	S83325	AA079717	Hs.283664	aspartate beta-hydroxylase
101977	S83364	AF112213	Hs.184062	putative Rab5-interacting protein
101978	S83365	BE561610	Hs.5809	putative transmembrane protein; homolog of yeast Golgi membrane protein Yif1p (Yip1p-interacting factor)
101998	U01212	U01212	Hs.248153	olfactory marker protein
102003	U01922	U01922	Hs.125565	translocase of inner mitochondrial membrane 8 (yeast) homolog A
102007	U02556	U02556	Hs.75307	t-complex-associated-testis-expressed 1-like
102009	U02680	BE245149	Hs.82643	protein tyrosine kinase 9
416658	U03272	U03272	Hs.79432	fibrillin 2 (congenital contractural arachnodactyly)
132951	U04209	AW821182	Hs.61418	microfibrillar-associated protein 1
135389	U05237	U05237	Hs.99872	fetal Alzheimer antigen
102048	U07225	U07225	Hs.339	purinergic receptor P2Y, G-protein coupled, 2
130145	U07620	U34820	Hs.151051	mitogen-activated protein kinase 10
303153	U09759	U09759	Hs.246857	mitogen-activated protein kinase 9
420269	U09820	U72937	Hs.96264	alpha thalassemia/mental retardation syndrome X-linked (RAD54 (S. cerevisiae) homolog)
102095	U11313	U11313	Hs.75760	sterol carrier protein 2
102123	U14518	NM_001809	Hs.1594	centromere protein A (17kD)
102126	U14575	AW950870	Hs.78961	protein phosphatase 1, regulatory (inhibitor) subunit 8
102133	U15173	AU076845	Hs.155596	BCL2/adenovirus E1B 19kD-interacting protein 2
102139	U15932	NM_004419	Hs.2128	dual specificity phosphatase 5
102162	U18291	AA450274	Hs.1592	CDC16 (cell division cycle 16, S. cerevisiae, homolog)

102164	U18300	NM_000107	Hs.77602	damage-specific DNA binding protein 2 (48kD)
427653	U18383	AA159001	Hs.180069	*nuclear respiratory factor 1*
131817	U20536	U20536	Hs.3280	caspase 6, apoptosis-related cysteine protease
102200	U21551	AA232362	Hs.157205	branched chain aminotransferase 1, cytosolic
102210	U23028	BE619413	Hs.2437	*eukaryotic translation initiation factor 2B, subunit 5 (epsilon, 82kD)*
102214	U23752	U23752	Hs.32964	SRY (sex determining region Y)-box 11
132811	U25435	U25435	Hs.57419	CCCTC-binding factor (zinc finger protein)
131319	U25997	NM_003155	Hs.25590	stanniocalcin 1
102256	U28251_cds2	U28251	Hs.53237	ESTs, Highly similar to Z169_HUMAN ZINC FINGER PROTEIN 169 [H.sapiens]
132316	U28831	U28831	Hs.44566	KIAA1641 protein
102269	U30245	U30245		gb:Human myelomonocytic specific protein (MNDA) gene, 5' flanking sequence and complete exon 1.
134365	U32315	AA568906	Hs.82240	*syntaxin 3A*
102293	U32439	AF090116	Hs.79348	regulator of G-protein signalling 7
102298	U32849	AA382169	Hs.54483	N-myc (and STAT) interactor
102325	U35139	AI815867	Hs.50130	*necdin (mouse) homolog*
302344	U36764	BE303044	Hs.192023	eukaryotic translation initiation factor 3, subunit 2 (beta, 36kD)
102361	U39400	AA223616	Hs.75859	chromosome 11 open reading frame 4
102367	U39657	U39656	Hs.118825	mitogen-activated protein kinase kinase 6
102388	U41344	AA362907	Hs.76494	proline arginine-rich end leucine-rich repeat protein
102394	U41766	NM_003816	Hs.2442	a disintegrin and metalloproteinase domain 9 (meltrin gamma)
129829	U41813	AF010258	Hs.127428	homeo box A9
102251	U41815	NM_004398	Hs.41706	DEAD/H (Asp-Glu-Ala-Asp/His) box polypeptide 10 (RNA helicase)
102409	U43286	BE300330	Hs.118725	selenophosphate synthetase 2
133746	U44378	AW410035	Hs.75862	MAD (mothers against decapentaplegic, Drosophila) homolog 4
102423	U44754	Z47542	Hs.179312	small nuclear RNA activating complex, polypeptide 1, 43kD
132828	U47011_cds1	AB014615	Hs.57710	fibroblast growth factor 8 (androgen-induced)
130441	U47077	U63630	Hs.155637	protein kinase, DNA-activated, catalytic polypeptide
102450	U48251	U48251	Hs.75871	protein kinase C binding protein 1
129350	U50535	U50535	Hs.110630	Human BRCA2 region, mRNA sequence CG006
102534	U56833	U96759	Hs.198307	von Hippel-Lindau binding protein 1
130457	U58091	AB014595	Hs.155976	cullin 4B
135065	U58837	AA019401	Hs.93909	cyclic nucleotide gated channel beta 1
102560	U59289	R97457	Hs.63984	cadherin 13, H-cadherin (heart)
102567	U59863	U63830	Hs.146847	TRAF family member-associated NFKB activator
134305	U67122	U61397	Hs.81424	ubiquitin-like 1 (sentrin)
102638	U67319	U67319	Hs.9216	*caspase 7, apoptosis-related cysteine protease*
132736	U68019	AW081883	Hs.288261	Homo sapiens cDNA: FLJ23037 fis, clone LNG02036, highly similar to HSU68019 Homo sapiens mad protein homolog (hMAD-3) mRNA
133070	U69611	U92649	Hs.64311	*a disintegrin and metalloproteinase domain 17* (tumor necrosis factor, alpha, converting enzyme)
102663	U70322	NM_002270	Hs.168075	karyopherin (importin) beta 2
134660	U73524	U73524	Hs.87465	ATP/GTP-binding protein
102735	U79267	AF111106	Hs.3382	protein phosphatase 4, regulatory subunit 1
102741	U79291	AW959829	Hs.83572	hypothetical protein MGC14433
101175	U82671_cds2	U82671	Hs.36980	melanoma antigen, family A, 2
132164	U84573	AI752235	Hs.41270	procollagen-lysine, 2-oxoglutarate 5-dioxygenase (lysine hydroxylase) 2
102823	U90914	D85390	Hs.5057	carboxypeptidase D
102826	U91316	NM_007274	Hs.8679	*cytosolic acyl coenzyme A thioester hydrolase*
102831	U91932	AA262170	Hs.80917	adaptor-related protein complex 3, sigma 1 subunit
102846	U96131	BE264974	Hs.6566	thyroid hormone receptor interactor 13
129777	U97018	U97018	Hs.12451	*echinoderm microtubule-associated protein-like*
134161	U97188	AA634543	Hs.79440	IGF-II mRNA-binding protein 3
134854	V00503	J03464	Hs.179573	collagen, type I, alpha 2
302363	X04327	AW163799	Hs.198365	2,3-bisphosphoglycerate mutase
133708	X06389	AI018666	Hs.75667	synaptophysin
125701	X07496	T72104	Hs.93194	apolipoprotein A-I
102915	X07820	X07820	Hs.2258	matrix metalloproteinase 10 (stromelysin 2)
134656	X14787	AI750878	Hs.87409	thrombospondin 1
413858	X15525_ma1	NM_001610	Hs.75589	acid phosphatase 2, lysosomal
102968	X16396	AU076611	Hs.154672	methylene tetrahydrofolate dehydrogenase (NAD+ dependent), methenyltetrahydrofolate cyclohydrolase
102971	X16609	X16609	Hs.183805	ankyrin 1, erythrocytic
134037	X53586_ma1	AI808780	Hs.227730	integrin, alpha 6
103023	X53793	AW500470	Hs.117950	multifunctional polypeptide similar to SAICAR synthetase and AIR carboxylase
103037	X54936	BE018302	Hs.2894	placental growth factor, vascular endothelial growth factor-related protein
130282	X55740	BE245380	Hs.153952	5' nucleotidase (CD73)
134542	X57025	M14156	Hs.85112	insulin-like growth factor 1 (somatomedin C)
128568	X60673_ma1	H12912	Hs.274691	adenylate kinase 3
103093	X60708	S79876	Hs.44926	dipeptidylpeptidase IV (CD26, adenosine deaminase complexing protein 2)
133606	X62048	U10564	Hs.75188	wee1+ (S. pombe) homolog
129063	X63097	X63094	Hs.283822	Rhesus blood group, D antigen
424460	X63563	BE275979	Hs.296014	*polymerase (RNA) II (DNA directed) polypeptide B (140kD)*
133227	X64037	AW977263	Hs.68257	general transcription factor IIF, polypeptide 1 (74kD subunit)
103181	X69636	X69636	Hs.334731	Homo sapiens, clone IMAGE:3448306, mRNA, partial cds
103184	X69878	U43143	Hs.74049	*fms-related tyrosine kinase 4*
103194	X70649	NM_004939	Hs.78580	DEAD/H (Asp-Glu-Ala-Asp/His) box polypeptide 1

103208	X72841	AW411340	Hs.31314	retinoblastoma-binding protein 7
129698	X74987	BE242144	Hs.12013	ATP-binding cassette, sub-family E (OABP), member 1
131486	X83107	F06972	Hs.27372	BMX non-receptor tyrosine kinase
130729	X84194	AI963747	Hs.18573	acylphosphatase 1, erythrocyte (common) type
103334	X85753	NM_001260	Hs.25283	cyclin-dependent kinase 8
132645	X87870	AI654712	Hs.54424	hepatocyte nuclear factor 4, alpha
135094	X89066	NM_003304	Hs.250687	transient receptor potential channel 1
103352	X89398_cds2	H09366	Hs.78853	uracil-DNA glycosylase
103353	X89399	X89399	Hs.119274	RAS p21 protein activator (GTPase activating protein) 3 (Ins(1,3,4,5)P4-binding protein)
132173	X89426	X89426	Hs.41716	endothelial cell-specific molecule 1
103371	X91247	X91247	Hs.13046	thioredoxin reductase 1
131584	X91648	AA598509	Hs.29117	purine-rich element binding protein A
103376	X92098	AL036166	Hs.323378	coated vesicle membrane protein
103378	X92110	AL119690	Hs.153618	HCGVIII-1 protein
128510	X94703	X94703	Hs.296371	RAB28, member RAS oncogene family
103410	X96506	AA158294	Hs.334879	DR1-associated protein 1 (negative cofactor 2 alpha)
133490	X97230_f	AF022044	Hs.274601	killer cell immunoglobulin-like receptor, three domains, long cytoplasmic tail, 1
103438	X98263	AW175781	Hs.152720	M-phase phosphoprotein 6
103440	X98296	X98296	Hs.77578	ubiquitin specific protease 9, X chromosome (Drosophila fat facets related)
103452	X99584	NM_006936	Hs.85119	SMT3 (suppressor of mif two 3, yeast) homolog 1
133536	Y00264	W25797.comp	Hs.177486	amyloid beta (A4) precursor protein (protease nexin-II, Alzheimer disease)
135185	Y07566	AW404908	Hs.96038	Ric (Drosophila)-like, expressed in many tissues
118523	Y07759	Y07759	Hs.170157	myosin VA (heavy polypeptide 12, myoxin)
134662	Y07827	NM_007048	Hs.284283	butyrophilin, subfamily 3, member A1
132083	Y07867	BE386490	Hs.279663	Pirin
103500	Y09443	AW408009	Hs.22580	alkylglycerone phosphate synthase
134389	Y09858	Y09858	Hs.82577	spindlin-like
132084	Y12394	NM_002267	Hs.3886	karyopherin alpha 3 (importin alpha 4)
103540	Z11559	NM_002197	Hs.154721	aconitase 1, soluble
133152	Z11695	Z11695	Hs.324473	mitogen-activated protein kinase 1
103548	Z15005	Z15005	Hs.75573	centromere protein E (312kD)
103612	Z46261	BE336654	Hs.70937	H3 histone family, member A
129092	AA011243_s	D56365	Hs.63525	poly(rC)-binding protein 2
103692	AA018418	AW137912	Hs.227583	Homo sapiens chromosome X map Xp11.23 L-type calcium channel alpha-1 subunit (CACNA1F) gene, complete cds; HSP27 pseudogene, complete sequence; and JM1 protein, JM2 protein, and Hb2E genes, complete cds
103695	AA018758	AW207152	Hs.186600	ESTs
129796	AA018804	BE218319	Hs.5807	GTPase Rab14
132258	AA031993	AA306325	Hs.4311	SUMO-1 activating enzyme subunit 2
132683	AA044217	BE264633	Hs.143638	WD repeat domain 4
131887	AA046548	W17064	Hs.332848	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily e, member 1
103723	AA057447_s	BE274312	Hs.214783	Homo sapiens cDNA FLJ14041 fis, clone HEMBA1005780
453368	AA058376	W20296	Hs.288178	Homo sapiens cDNA FLJ11968 fis, clone HEMBB1001133
133260	AA083572	AA403045	Hs.6906	Homo sapiens cDNA: FLJ23197 fis, clone REC00917
103765	AA085696	AA085696	Hs.169600	KIAA0826 protein
103766	AA088744	AI920783	Hs.191435	ESTs
103767	AA089688	BE244667	Hs.296155	CGI-100 protein
132051	AA091284	AA393968	Hs.180145	HSPC030 protein
103773	AA092700	AI219323	Hs.101077	ESTs, Weakly similar to T22363 hypothetical protein F47G9.4 - Caenorhabditis elegans [C.elegans]
135289	AA092968	AW372569	Hs.9788	hypothetical protein MGC10924 similar to Nedd4 WW-binding protein 5
132729	AA094800	AW970843	Hs.55682	eukaryotic translation initiation factor 3, subunit 7 (zeta, 66/67kD)
103794	AA100219	AF244135	Hs.30670	hepatocellular carcinoma-associated antigen 66
131471	AA114885	AA164842	Hs.192619	KIAA1600 protein
134319	AA129547	BE304999	Hs.75653	fumarate hydratase
103807	AA133016	AW958264	Hs.103832	similar to yeast Upf3, variant B
119159	AA149507	AF142419	Hs.15020	homolog of mouse quaking QKI (KH domain RNA binding protein)
129863	AA151005	BE379765	Hs.129872	sperm associated antigen 9
103850	AA187101	AA187101	Hs.213194	hypothetical protein MGC10895
103855	AA195179_s	W02363	Hs.302267	hypothetical protein FLJ10330
322026	AA203138	AW024973	Hs.283675	NPD009 protein
135300	AA203645	AA142922	Hs.278626	Arg/Abl-interacting protein ArgBP2
103861	AA206236	AA206236	Hs.4944	hypothetical protein FLJ12783
130634	AA227621	AI769067	Hs.127824	ESTs, Weakly similar to T28770 hypothetical protein W03D2.1 - Caenorhabditis elegans [C.elegans]
447735	AA248283	AA775268	Hs.6127	Homo sapiens cDNA: FLJ23020 fis, clone LNG00943
103909	AA249611	AA249611	Hs.47438	SH3 domain binding glutamic acid-rich protein
131236	AA282640	AF043117	Hs.24594	ubiquitination factor E4B (homologous to yeast UFD2)
134060	AA287199	D42039	Hs.78871	mesoderm development candidate 2
129013	AA313990	AA371156	Hs.107942	DKFZP564M112 protein
129435	AA314256	AF151852	Hs.111449	CGI-94 protein
103988	AA314389	AA314389	Hs.42500	ADP-ribosylation factor-like 5
104000	AA324364	AI146527	Hs.80475	polymerase (RNA) II (DNA directed) polypeptide J (13.3kD)
425284	AA329211_s	AF155568	Hs.155489	NS1-associated protein 1
128629	AA399187	AL096748	Hs.102708	DKFZP434A043 protein
133281	AA421079	AK001601	Hs.69594	high-mobility group 20A

104104	AA422029	AA422029	Hs.143640	ESTs, Weakly similar to hyperpolarization-activated cyclic nucleotide-gated channel hHCN2 [H.sapiens]
108154	AA425230	NM_005754	Hs.220689	Ras-GTPase-activating protein SH3-domain-binding protein
132091	AA447052	AW954243	Hs.170218	KIAA0251 protein
135073	AA452000	W55956	Hs.94030	Homo sapiens mRNA; cDNA DKFZp586E1624 (from clone DKFZp586E1624)
131367	AA456687	AI750575	Hs.173933	nuclear factor I/A
129593	AA487015_s	AI338247	Hs.98314	Homo sapiens mRNA; cDNA DKFZp586L0120 (from clone DKFZp586L0120)
135266	AB002326	R41179	Hs.97393	KIAA0328 protein
133505	C01527	AI630124	Hs.324504	Homo sapiens mRNA; cDNA DKFZp586J0720 (from clone DKFZp586J0720)
132064	C01714	AA121098	Hs.3838	serum-inducible kinase
134393	C01811_f	W52642	Hs.8261	hypothetical protein FLJ22393
131427	C02352_s	AF151879	Hs.26706	CGI-121 protein
133435	C02375	AI929357	Hs.323966	Homo sapiens clone H63 unknown mRNA
104282	C14448	C14448	Hs.332338	EST
134827	D16611_s	BE314037	Hs.89866	coproporphyrinogen oxidase (coproporphyria, harderoporphyria)
130443	D25216	D25216	Hs.155650	KIAA0014 gene product
131742	D31352	AA961420	Hs.31433	ESTs
132837	D58024_s	AA370362	Hs.57958	EGF-TM7-latrophilin-related protein
130377	D80897	NM_014909	Hs.155182	KIAA1036 protein
104334	D82614	D82614	Hs.78771	phosphoglycerate kinase 1
134593	D87845	NM_000437	Hs.234392	platelet-activating factor acetylhydrolase 2 (40kD)
134731	D89377_i	D89377	Hs.89404	msh (Drosophila) homeo box homolog 2
129913	H06583	NM_001310	Hs.13313	cAMP responsive element binding protein-like 2
131670	H40732	H03514	Hs.10130	ESTs
104394	H46617	AA129551	Hs.172129	Homo sapiens cDNA: FLJ21409 fis, clone COL03924
104402	H56731	H56731	Hs.132956	ESTs
129781	H75570	AA306090	Hs.124707	ESTs
129077	H78886	N74724	Hs.108479	ESTs
104417	H81241	AI819448	Hs.320861	Kruppel-like factor 8
134927	L36531	L36531	Hs.91296	integrin, alpha 8
129280	M63154	M63154	Hs.110014	gastric intrinsic factor (vitamin B synthesis)
134498	M63180	AW246273	Hs.84131	threonyl-tRNA synthetase
104460	M91504	AW955705	Hs.62604	Homo sapiens, clone IMAGE:4299322, mRNA, partial cds
104488	N56191	N56191	Hs.106511	protocadherin 17
131248	N78483	AI038989	Hs.332633	Bardet-Biedl syndrome 2
129214	N79268	AL044335	Hs.109526	zinc finger protein 198
130017	R14652	AK000096	Hs.143198	inhibitor of growth family, member 3
104530	R20459	AK001676	Hs.12457	hypothetical protein FLJ10814
104534	R22303	R22303		gb:yh26b09.r1 Soares placenta Nb2HP Homo sapiens cDNA clone IMAGE:130841 5', mRNA sequence.
104544	R33779	AI091173	Hs.222362	ESTs, Weakly similar to p40 [H.sapiens]
133328	R36553	AW452738	Hs.265327	hypothetical protein DKFZp761I141
104567	R64534	AA040620	Hs.5672	hypothetical protein AF140225
128562	R66475	AA923382	Hs.101490	ESTs
129575	R70621	F08282	Hs.278428	progestin induced protein
130776	R79356	AF167706	Hs.19280	cysteine-rich motor neuron 1
104599	R84933	AW815036	Hs.151251	ESTs
104660	RC_AA007160	BE298665	Hs.14846	Homo sapiens mRNA; cDNA DKFZp564D016 (from clone DKFZp564D016)
104667	RC_AA007234_s	AI239923	Hs.30098	ESTs
104718	RC_AA018409	AI143020	Hs.36250	ESTs, Weakly similar to I38022 hypothetical protein [H.sapiens]
104764	RC_AA025351	AI039243	Hs.278585	ESTs
104786	RC_AA027168	AA027167	Hs.10031	KIAA0955 protein
104787	RC_AA027317	AA027317		gb:ze97d11.s1 Soares_fetal_heart_NbHH19W Homo sapiens cDNA clone IMAGE:366933 3' similar to contains Alu repetitive element;, mRNA sequence.
134079	RC_AA029423	AK001751	Hs.171835	hypothetical protein FLJ10889
104804	RC_AA031357	AI858702	Hs.31803	ESTs, Weakly similar to N-WASP [H.sapiens]
104865	RC_AA045136	T79340	Hs.22575	B-cell CLL/lymphoma 6, member B (zinc finger protein)
130828	RC_AA053400	AW631469	Hs.203213	ESTs
104907	RC_AA055829	AA055829	Hs.196701	ESTs, Weakly similar to ALU1_HUMAN ALU SUBFAMILY J SEQUENCE CONTAMINATION WARNING ENTRY [H.sapiens]
104943	RC_AA065217	AF072873	Hs.114218	frizzled (Drosophila) homolog 6
105013	RC_AA116054	H63789	Hs.296288	ESTs, Weakly similar to KIAA0638 protein [H.sapiens]
105024	RC_AA126311	AA126311	Hs.9879	ESTs
132592	RC_AA129390	AW803564	Hs.288850	Homo sapiens cDNA: FLJ22528 fis, clone HRC12825
105038	RC_AA130273	AW503733	Hs.9414	KIAA1488 protein
105077	RC_AA142919	W55946	Hs.234863	Homo sapiens cDNA FLJ12082 fis, clone HEMBB1002492
105096	RC_AA150205	AL042506	Hs.21599	Kruppel-like factor 7 (ubiquitous)
129215	RC_AA176867	AB040930	Hs.126085	KIAA1497 protein
105169	RC_AA180321	BE245294	Hs.180789	S164 protein
132796	RC_AA180487	NM_006283	Hs.173159	transforming, acidic coiled-coil containing protein 1
130401	RC_AA187634	BE396283	Hs.173987	eukaryotic translation initiation factor 3, subunit 1 (alpha, 35kD)
105200	RC_AA195399	AA328102	Hs.24641	cytoskeleton associated protein 2
130114	RC_AA234717	AA233393	Hs.14992	hypothetical protein FLJ11151
105330	RC_AA234743	AW338625	Hs.22120	ESTs
105337	RC_AA234957	AI468789	Hs.23200	myotubularin related protein 1
129385	RC_AA235604	AA172106	Hs.110950	Rag C protein

105376	RC_AA236559	AW994032	Hs.8768	hypothetical protein FLJ10849
105397	RC_AA242868	AA814807	Hs.7395	hypothetical protein FLJ23182
131962	RC_AA251776	AK000046	Hs.267448	hypothetical protein FLJ20039
131991	RC_AA251909	AF053306	Hs.36708	budding uninhibited by benzimidazoles 1 (yeast homolog), beta
128658	RC_AA252672_s	BE397354	Hs.324830	diptheria toxin resistance protein required for diphthamide biosynthesis (Saccharomyces)-like 2
105489	RC_AA256157	AA256157	Hs.24115	Homo sapiens cDNA FLJ14178 fis, clone NT2RP2003339
105508	RC_AA256680	AA173942	Hs.326416	Homo sapiens mRNA; cDNA DKFZp564H1916 (from clone DKFZp564H1916)
105539	RC_AA258873	AB040884	Hs.109694	KIAA1451 protein
135172	RC_AA262727	AB028956	Hs.12144	KIAA1033 protein
131569	RC_AA281451	AL389951	Hs.271623	nucleoporin 50kD
132542	RC_AA281545	AL137751	Hs.263671	*Homo sapiens mRNA; cDNA DKFZp434I0812 (from clone DKFZp434I0812); partial cds*
105643	RC_AA282069	BE621719	Hs.173802	KIAA0603 gene product
105659	RC_AA283044	AA283044	Hs.25625	hypothetical protein FLJ11323
105666	RC_AA283930	AA426234	Hs.34906	ESTs, Weakly similar to T17210 hypothetical protein DKFZp434N041.1 [H.sapiens]
105674	RC_AA284755	AI609530	Hs.279789	histone deacetylase 3
105709	RC_AA291268	AI928962	Hs.26761	DKFZP586L0724 protein
105722	RC_AA291927	AI922821	Hs.32433	ESTs
105765	RC_AA343514	AA299688	Hs.24183	ESTs
115951	RC_AA398109	BE546245	Hs.301048	sec13-like protein
105962	RC_AA405737	AW880358	Hs.339808	hypothetical protein FLJ10120
105985	RC_AA406610	AA406610		gb:zv15b10.s1 Soares_NhHMPu_S1 Homo sapiens cDNA clone IMAGE:753691 3' similar to gb:X02067
106008	RC_AA411465	AB033888	Hs.8619	SRY (sex determining region Y)-box 18
131216	RC_AA416886	AI815486	Hs.243901	Homo sapiens cDNA FLJ20738 fis, clone HEP08257
134222	RC_AA424013	AW855861	Hs.8025	Homo sapiens clone 23767 and 23782 mRNA sequences
113689	RC_AA424148	AB037850	Hs.16621	DKFZP434I116 protein
106141	RC_AA424558	AF031463	Hs.9302	phosducin-like
130839	RC_AA424961_s	AB011169	Hs.20141	similar to S. cerevisiae SSM4
106157	RC_AA425367	W37943	Hs.34892	KIAA1323 protein
130777	RC_AA425921	AW135049	Hs.285418	Homo sapiens cDNA FLJ10643 fis, clone NT2RP2005753, *highly similar to Homo sapiens* I-1 receptor
130561	RC_AA426220	AB011095	Hs.16032	KIAA0523 protein
106196	RC_AA427735	AA525993	Hs.173699	ESTs, Weakly similar to ALU1_HUMAN ALU SUBFAMILY J SEQUENCE CONTAMINATION WARNING
131878	RC_AA430673	AA083764	Hs.6101	hypothetical protein MGC3178
133200	RC_AA432248	AB037715	Hs.183639	hypothetical protein FLJ10210
106302	RC_AA435896	AA398859	Hs.18397	hypothetical protein FLJ23221
106328	RC_AA436705	AL079559	Hs.28020	KIAA0766 gene product
450534	RC_AA446561	AI570189	Hs.25132	KIAA0470 gene product
106423	RC_AA448238	AB020722	Hs.16714	Rho guanine exchange factor (GEF) 15
133442	RC_AA448688	AL137663	Hs.7378	Homo sapiens mRNA; cDNA DKFZp434G227 (from clone DKFZp434G227)
439608	RC_AA449756	AW864696	Hs.301732	hypothetical protein MGC5306
106477	RC_AA450303	R23324	Hs.41693	DnaJ (Hsp40) homolog, subfamily B, member 4
106503	RC_AA452411	AB033042	Hs.29679	cofactor required for Sp1 transcriptional activation, subunit 3 (130kD)
446999	RC_AA454566	AA151520	Hs.334822	hypothetical protein MGC4485
106543	RC_AA454667	AA676939	Hs.69285	neuropilin 1
130010	RC_AA456437	AA301116	Hs.142838	*nucleolar phosphoprotein Nopp34*
106589	RC_AA456646	AK000933	Hs.28661	Homo sapiens cDNA FLJ10071 fis, clone HEMBA1001702
106593	RC_AA456826	AW296451	Hs.24605	ESTs
106596	RC_AA456981	AA452379	Hs.293552	ESTs, Moderately similar to ALU7_HUMAN ALU SUBFAMILY SQ SEQUENCE CONTAMINATION
134655	RC_AA458959	AF265208	Hs.123090	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily f, member 1
106636	RC_AA459950	AW958037	Hs.286	ribosomal protein L4
106654	RC_AA460449	AW075485	Hs.286049	phosphoserine aminotransferase
131353	RC_AA463910	AW754182		gb:RC2-CT0321-131199-011-c01 CT0321 Homo sapiens cDNA, mRNA sequence
106707	RC_AA464603	AK000566	Hs.98135	hypothetical protein FLJ20559
131710	RC_AA464606	NM_015368	Hs.30985	pannexin 1
106717	RC_AA465093	AA600357	Hs.239489	TIA1 *cytotoxic granule-associated RNA-binding protein*
131775	RC_AA465692	AB014548	Hs.31921	KIAA0648 protein
106747	RC_AA476473	NM_007118	Hs.171957	triple functional domain (PTPRF interacting)
106773	RC_AA478109	AA478109	Hs.188833	ESTs
106781	RC_AA478474	AA330310	Hs.24181	ESTs
106817	RC_AA480889	D61216	Hs.18672	ESTs
106846	RC_AA485223	AB037744	Hs.34892	KIAA1323 protein
106848	RC_AA485254	AA449014	Hs.121025	chromosome 11 open reading frame 5
106856	RC_AA486183	W58353	Hs.285123	Homo sapiens mRNA full length insert cDNA clone EUROIMAGE 2005779
418699	RC_AA496936	BE539639	Hs.173030	ESTs, Weakly similar to ALU8_HUMAN ALU SUBFAMILY SX SEQUENCE CONTAMINATION WARNING
107001	RC_AA598589	AI926520	Hs.31016	putative DNA binding protein
130638	RC_AA598831_f	AW021276	Hs.17121	ESTs
107054	RC_AA600150	AI076459	Hs.15978	KIAA1272 protein
107059	RC_AA608545	BE614410	Hs.23044	RAD51 (S. cerevisiae) homolog (E coli RecA homolog)
107080	RC_AA609210	AL122043	Hs.19221	hypothetical protein DKFZp566G1424
107115	RC_AA610108	BE379623	Hs.27693	peptidylprolyl isomerase (cyclophilin)-like 1
107130	RC_AA620582	AB033106	Hs.12913	KIAA1280 protein

107156	RC_AA621239	AA137043	Hs.9663	programmed cell death 6-interacting protein
107174	RC_AA621714	BE122762	Hs.25338	ESTs
130621	RC_AA621718	AW513087	Hs.16803	LUC7 (S. cerevisiae)-like
107190	RC_D19673	AA836401	Hs.5103	ESTs
132626	RC_D25755_s	AW504732	Hs.21275	hypothetical protein FLJ11011
107217	RC_D51095	AL080235	Hs.35861	DKFZP586E1621 protein
131610	RC_D60272_i	AA357879	Hs.29423	scavenger receptor with C-type lectin
129604	T08879	AF088886	Hs.11590	cathepsin F
107295	T34527	AA186629	Hs.80120	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 1 (GalNAc-T1)
107299	T40327_s	BE277457	Hs.30661	hypothetical protein MGC4606
107315	T62771_s	AA316241	Hs.90691	nucleophosmin/nucleoplasmin 3
107316	T63174_s	T63174	Hs.193700	Homo sapiens mRNA; cDNA DKFZp586I0324 (from clone DKFZp586I0324)
107328	T83444	AW959891	Hs.76591	KIAA0887 protein
107334	T93641	T93597	Hs.187429	ESTs
134715	U48263	U48263	Hs.89040	prepronociceptin
128636	U49065	U49065	Hs.102865	interleukin 1 receptor-like 2
129938	U79300	AW003668	Hs.135587	Human clone 23629 mRNA sequence
107375	U88573	BE011845	Hs.251064	high-mobility group (nonhistone chromosomal) protein 14
130074	U93867	AL038596	Hs.250745	polymerase (RNA) III (DNA directed) (62kD)
107387	W01094	D86983	Hs.118893	Melanoma associated gene
132036	W01568	AL157433	Hs.37706	hypothetical protein DKFZp434E2220
107426	W26853	W26853	Hs.291003	hypothetical protein MGC4707
113857	W27179	AW243158	Hs.5297	DKFZP564A2416 protein
135388	W27965	W27965	Hs.99865	epimorphin
130419	W36280_s	AF037448	Hs.155489	NS1-associated protein 1
107469	W47063	W47063	Hs.94668	ESTs
132616	W79060	BE262677	Hs.283558	hypothetical protein PRO1855
107506	W88550	AB028981	Hs.8021	KIAA1058 protein
132358	X60486	NM_003542	Hs.46423	H4 histone family, member G
107522	X78931_s	X78931	Hs.99971	zinc finger protein 272
125827	Z14077_s	NM_003403	Hs.97496	YY1 transcription factor
107582	RC_AA002147	AA002147	Hs.59952	EST
107609	RC_AA004711	R75654	Hs.164797	hypothetical protein FLJ13693
107661	RC_AA010383	AA010383	Hs.60389	ESTs
107714	RC_AA015761	AA015761	Hs.60642	ESTs
107775	RC_AA018772	AW008846	Hs.60857	ESTs
107832	RC_AA021473_r	AA021473		gb:ze66c11.s1 Soares retina N2b4HR Homo sapiens cDNA clone IMAGE:363956 3', mRNA sequence.
107859	RC_AA024835	AW732573	Hs.47584	potassium voltage-gated channel, delayed-rectifier, subfamily S, member 3
124337	RC_AA025858	N23541	Hs.281561	Homo sapiens cDNA: FLJ23582 fis, clone LNG13759
107914	RC_AA027229	AA027229	Hs.61329	ESTs, Weakly similar to T16370 hypothetical protein F45E12.5 - Caenorhabditis elegans [C.elegans]
107935	RC_AA029428	AA029428	Hs.61555	ESTs
116262	RC_AA035143	AI936442	Hs.59838	hypothetical protein FLJ10808
131461	RC_AA035237	AA992841	Hs.27263	KIAA1458 protein
108007	RC_AA039347	AA039347	Hs.61916	EST
108029	RC_AA040740	AA040740	Hs.62007	ESTs
108040	RC_AA041551	AL121031	Hs.159971	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily b, member 1
108084	RC_AA045513	AA058944	Hs.116602	Homo sapiens, clone IMAGE:4154008, mRNA, partial cds
108088	RC_AA045745	AA045745	Hs.62886	ESTs
108168	RC_AA055348	AI453137	Hs.63176	ESTs
130719	RC_AA056582_s	AA679262	Hs.14235	hypothetical protein FLJ20008; KIAA1839 protein
108189	RC_AA056697	AW376061	Hs.63335	ESTs, Moderately similar to A46010 X-linked retinopathy protein [H.sapiens]
108190	RC_AA056746	AA056746	Hs.63338	EST
108203	RC_AA057678	AW847814	Hs.289005	Homo sapiens cDNA: FLJ21532 fis, clone COL06049
108216	RC_AA058681	AA524743	Hs.44883	ESTs
108217	RC_AA058686	AA058686	Hs.62588	ESTs
108245	RC_AA062840	BE410285	Hs.89545	proteasome (prosome, macropain) subunit, beta type, 4
108277	RC_AA064859	AA064859		gb:zm50f03.s1 Stratagene fibroblast (937212) Homo sapiens cDNA clone IMAGE:529085 3', mRNA
108280	RC_AA065069	AA065069		gb:zm12e11.s1 Stratagene pancreas (937208) Homo sapiens cDNA clone 3', mRNA sequence
108309	RC_AA069923	AA069818		gb:zm67e03.r1 Stratagene neuroepithelium (937231) Homo sapiens cDNA clone 5' similar to
133739	RC_AA070799_s	BE536554	Hs.278270	unactive progesterone receptor, 23 kD
108340	RC_AA070815	AA069820	Hs.180909	peroxiredoxin 1
108403	RC_AA075374	AA075374		gb:zm87a01.s1 Stratagene ovarian cancer (937219) Homo sapiens cDNA clone IMAGE:544872 3', mRNA sequence.
108427	RC_AA076382	AA076382		gb:zm91g08.s1 Stratagene ovarian cancer (937219) Homo sapiens cDNA clone IMAGE:545342 3', mRNA sequence.
108435	RC_AA078787	T82427	Hs.194101	Homo sapiens cDNA: FLJ20869 fis, clone ADKA02377
108439	RC_AA078986	AA078986		gb:zm92h01.s1 Stratagene ovarian cancer (937219) Homo sapiens cDNA clone IMAGE:545425 3', mRNA sequence.
108465	RC_AA079393	AA079393	Hs.3462	cytochrome c oxidase subunit VIIc
108469	RC_AA079487	AA079487		gb:zm97f08.s1 Stratagene colon HT29 (937221) Homo sapiens cDNA clone 3', mRNA sequence

108500	RC_AA083207	AA083207	Hs.68270	EST
108501	RC_AA083256	AA083256		gb:zn08g12.s1 Stratagene hNT neuron (937233) Homo sapiens cDNA clone 3' similar to gb:M33308
108533	RC_AA084415	AA084415		gb:zn06g09.s1 Stratagene hNT neuron (937233) Homo sapiens cDNA clone IMAGE:546688 3', mRNA
108562	RC_AA085274	AA100796		gb:zm26c06.s1 Stratagene pancreas (937208) Homo sapiens cDNA clone 3' similar to gb:X15341
108589	RC_AA088678	AI732404	Hs.68846	ESTs
130890	RC_AA100925	AI907537	Hs.76698	stress-associated endoplasmic reticulum protein 1; ribosome associated membrane protein 4
134585	RC_AA101255	D14041	Hs.278573	H-2K binding factor-2
130385	RC_AA126474	AW067800	Hs.155223	*stanniocalcin 2*
108749	RC_AA127017	AA127017	Hs.71052	ESTs
108807	RC_AA129968	AI652236	Hs.49376	hypothetical protein FLJ20644
108808	RC_AA130240	AA045088	Hs.62738	ESTs
108833	RC_AA131866	AF188527	Hs.61661	ESTs, Weakly similar to AF174605 1 F-box protein Fbx25 [H.sapiens]
107290	RC_AA132039	W27740	Hs.323780	ESTs
108846	RC_AA132983	AL117452	Hs.44155	DKFZP586G1517 protein
108857	RC_AA133250	AK001468	Hs.62180	*anillin (Drosophila Scraps homolog), actin binding protein*
131474	RC_AA133583_s	L46353	Hs.2726	high-mobility group (nonhistone chromosomal) protein isoform I-C
108894	RC_AA135941	AK001431	Hs.5105	hypothetical protein FLJ10569
108941	RC_AA148650	AA148650		gb:zo09e06.s1 Stratagene neuroepithelium NT2RAMI 937234 Homo sapiens cDNA clone IMAGE:567202 3',
108968	RC_AA151110	AI304870	Hs.188680	ESTs
108996	RC_AA155754	AW995610	Hs.332436	EST
109001	RC_AA156125	AI056548	Hs.72116	hypothetical protein FLJ20992 similar to hedgehog-interacting protein
131183	RC_AA156289	AI611807	Hs.285107	hypothetical protein FLJ13397
109019	RC_AA156997	AA156755	Hs.72150	ESTs
109022	RC_AA157291	AA157291	Hs.21479	ubinuclein 1
109023	RC_AA157293	AA157293	Hs.72168	ESTs
109068	RC_AA164293_f	AA164293	Hs.72545	ESTs
109072	RC_AA164676	AI732585	Hs.22394	hypothetical protein FLJ10893
129021	RC_AA167375	AL044675	Hs.173081	KIAA0530 protein
130346	RC_AA167550	H05769	Hs.188757	Homo sapiens, clone MGC:5564, mRNA, complete cds
109146	RC_AA176589	AA176589	Hs.142078	EST
109172	RC_AA180448	AA180448	Hs.144300	EST
131080	RC_AA187144_s	NM_001955	Hs.2271	endothelin 1
129208	RC_AA189170_f	AI587376	Hs.109441	MSTP033 protein
109222	RC_AA192757	AA192833	Hs.333512	similar to rat myomegalin
109300	RC_AA205650	AA418276	Hs.170142	ESTs
109481	RC_AA233342	AA878923	Hs.289069	*hypothetical protein FLJ21016*
109485	RC_AA233472	BE619092	Hs.28465	Homo sapiens cDNA: FLJ21869 fis, clone HEP02442
109516	RC_AA234110	AI471639	Hs.71913	ESTs
109537	RC_D80981	AI858695	Hs.34898	ESTs
109556	RC_F01660	AI925294	Hs.87385	ESTs
109577	RC_F02206	F02206	Hs.296639	Homo sapiens potassium channel subunit (HERG-3) mRNA, complete cds
109578	RC_F02208	F02208	Hs.27214	ESTs
109595	RC_F02544	AA078629	Hs.27301	ESTs
109625	RC_F03918	H29490	Hs.22697	ESTs
131983	RC_F04258_s	AF119665	Hs.184011	pyrophosphatase (inorganic)
109648	RC_F04600	H17800	Hs.7154	ESTs
109671	RC_F08998	R59210	Hs.26634	ESTs
109699	RC_F09605	H18013	Hs.167483	ESTs
109820	RC_F11115	AW016809	Hs.323795	ESTs
109933	RC_H06371	R52417	Hs.20945	Homo sapiens clone 24993 mRNA sequence
110014	RC_H10995	AL109666	Hs.7242	Homo sapiens mRNA full length insert cDNA clone EUROIMAGE 35907
110039	RC_H11938	H11938	Hs.21907	histone acetyltransferase
110099	RC_H16568	R44557	Hs.23748	ESTs
110107	RC_H16772	AW151660	Hs.31444	ESTs
110155	RC_H18951	AI559626	Hs.93522	*Homo sapiens mRNA for KIAA1647 protein, partial cds*
110197	RC_H20859	AW090386	Hs.112278	arrestin, beta 1
110223	RC_H23747	H19836	Hs.31697	ESTs
110306	RC_H38087	H38087	Hs.105509	CTL2 gene
110335	RC_H40331	H65490	Hs.18845	ESTs
110342	RC_H40567	H40961	Hs.33008	ESTs
110395	RC_H46966	AA025116	Hs.33333	ESTs
110511	RC_H56640_i	H56640	Hs.221460	ESTs
110523	RC_H57154	AI040384	Hs.19102	ESTs, Weakly similar to organic anion transporter 1 [H.sapiens]
110715	RC_H96712	H96712	Hs.269029	ESTs
110754	RC_N20814	AW302200	Hs.6336	KIAA0672 gene product
130132	RC_N25249	U55936	Hs.184376	synaptosomal-associated protein, 23kD
131135	RC_N27100	NM_016569	Hs.267182	TBX3-iso protein
134263	RC_N39616	AW973443	Hs.8086	RNA (guanine-7-) methyltransferase
110938	RC_N48982	N48982	Hs.38034	Homo sapiens cDNA *FLJ12924 fis, clone NT2RP2004709*
110983	RC_N51957	NM_015367	Hs.10267	MIL1 protein
115062	RC_N52271	AA253314	Hs.154103	LIM protein (similar to rat protein kinase C-binding enigma)
111081	RC_N59435	AI146349	Hs.271614	CGI-112 protein

111128	RC_N64139	AW505364	Hs.19074	LATS (large tumor suppressor, Drosophila) homolog 2
135244	RC_N66981	AI834273	Hs.9711	novel protein
111216	RC_N68640	AW139408	Hs.152940	ESTs
437562	RC_N69352	AB001636	Hs.5683	DEAD/H (Asp-Glu-Ala-Asp/His) box polypeptide 15
131002	RC_N95226	AL050295	Hs.22039	KIAA0758 protein
111399	RC_R00138	AW270776	Hs.18857	ESTs
111514	RC_R07998	R07998		gb:yf16g11.s1 Soares fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE:127076 3' similar to
130182	RC_R08929	BE267033	Hs.192853	ubiquitin-conjugating enzyme E2G 2 (homologous to yeast UBC7)
111574	RC_R10307	AI024145	Hs.188526	ESTs
111804	RC_R33354	AA482478	Hs.181785	ESTs
111831	RC_R36083	R36095	Hs.268695	ESTs
129675	RC_R37938_f	NM_015556	Hs.172180	KIAA0440 protein
111904	RC_R39330	Z41572		gb:HSCZYB122 normalized infant brain cDNA Homo sapiens cDNA clone c-zyb12, mRNA sequence
133868	RC_R40816_s	AB012193	Hs.183874	cullin 4A
112033	RC_R43162_s	R49031	Hs.22627	ESTs
130987	RC_R45698	BE613269	Hs.21893	hypothetical protein DKFZp761N0624
112300	RC_R54554	H24334	Hs.26125	ESTs
112513	RC_R68425	R68425	Hs.13809	hypothetical protein FLJ10648
112514	RC_R68568	R68568	Hs.183373	src homology 3 domain-containing protein HIP-55
112522	RC_R68763	R68857	Hs.265499	ESTs
112540	RC_R70467	R69751		gb:yi40a10.s1 Soares placenta Nb2HP Homo sapiens cDNA clone 3', mRNA sequence
130346	RC_R73565	H05769	Hs.188757	Homo sapiens, clone MGC:5564, mRNA, complete cds
129534	RC_R73640	AK002126	Hs.11260	*hypothetical protein FLJ11264*
112597	RC_R78376	R78376	Hs.29733	EST
112732	RC_R92453	R92453	Hs.34590	ESTs
131458	RC_T03865	BE297567	Hs.27047	hypothetical protein FLJ20392
112888	RC_T03872	AW195317	Hs.107716	hypothetical protein FLJ22344
131863	RC_T10072	AI656378	Hs.33461	ESTs
112911	RC_T10080	AW732747	Hs.13493	like mouse brain protein E46
132215	RC_T10132	AL035703	Hs.4236	KIAA0478 gene product
112931	RC_T15343	T02966	Hs.167428	ESTs
112984	RC_T23457	T16971	Hs.289014	ESTs, Weakly similar to A43932 mucin 2 precursor, intestinal [H.sapiens]
112998	RC_T23555	H11257	Hs.22968	Homo sapiens clone IMAGE:451939, mRNA sequence
133376	RC_T23670	BE618768	Hs.7232	acetyl-Coenzyme A carboxylase alpha
113026	RC_T23948	AA376654	Hs.183684	*eukaryotic translation initiation factor 4 gamma*, 2
113070	RC_T33464	AB032977	Hs.6298	KIAA1151 protein
128970	RC_T34413	AI375672	Hs.165028	ESTs
113074	RC_T34611	AK001335	Hs.31137	protein tyrosine phosphatase, receptor type, E
113095	RC_T40920	AA828380	Hs.126733	ESTs
113179	RC_T55182	BE622021	Hs.152571	ESTs, Highly similar to IGF-II mRNA-binding protein 2 [H.sapiens]
113337	RC_T77453	T77453	Hs.302234	ESTs
113421	RC_T84039	AI769400	Hs.189729	ESTs
113454	RC_T86458	AI022166	Hs.16188	ESTs
113481	RC_T87693	T87693	Hs.204327	EST
131441	RC_T89350_s	AA302862	Hs.90063	neurocalcin delta
113557	RC_T90945	H66470	Hs.16004	ESTs
113559	RC_T90987	T79763	Hs.14514	ESTs
113589	RC_T91863	AI078554	Hs.15682	ESTs
113591	RC_T91881	T91881	Hs.200597	KIAA0563 gene product
113619	RC_T93783_s	R08665	Hs.17244	*hypothetical protein FLJ13605*
113683	RC_T96687	AB035335	Hs.144519	T-cell leukemia/lymphoma 6
113692	RC_T96944	AL360143	Hs.17936	DKFZP434H132 protein
113702	RC_T97307	T97307		gb:ye53h05.s1 Soares fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE:121497 3', mRNA
113717	RC_T97764	T99513	Hs.187447	ESTs
113824	RC_W48817	AI631964	Hs.34447	ESTs
113840	RC_W58343	R72137	Hs.7949	DKFZP586B2420 protein
113844	RC_W59949	AI369275	Hs.243010	Homo sapiens cDNA FLJ14445 fis, clone HEMBB1001294, highly similar to GTP-BINDING PROTEIN TC10
113902	RC_W74644	AA340111	Hs.100009	acyl-Coenzyme A oxidase 1, palmitoyl
113904	RC_W74761	AF125044	Hs.19196	ubiquitin-conjugating enzyme HBUCE1
113905	RC_W74802	R81733	Hs.33106	ESTs
113931	RC_W81205	BE255499	Hs.3496	hypothetical protein MGC15749
113932	RC_W81237	AA256444	Hs.126485	hypothetical protein FLJ12604; KIAA1692 protein
131965	RC_W90146_f	W79283	Hs.35962	ESTs
114035	RC_W92798	W92798	Hs.269181	ESTs
114106	RC_Z38412	AW602528		gb:RC5-BT0562-260100-011-A02 BT0562 Homo sapiens cDNA, mRNA sequence
133593	RC_Z38709	AI416988	Hs.238272	inositol 1,4,5-triphosphate receptor, type 2
114161	RC_Z38904	BE548222	Hs.299883	hypothetical protein FLJ23399
424949	RC_Z39103	AF052212	Hs.153934	core-binding factor, runt domain, alpha subunit 2; translocated to, 2
129059	RC_Z39930_f	AW069534	Hs.279583	CGI-81 protein
128937	RC_Z39939	AA251380	Hs.10726	ESTs, Weakly similar to ALU1_HUMAN ALU SUBFAMILY J SEQUENCE CONTAMINATION WARNING
130983	RC_Z40012_i	AI479813	Hs.278411	NCK-associated protein 1

114277	RC_Z40377_s	AI052229	Hs.25373	ESTs, Weakly similar to T20410 hypothetical protein E02A10.2 - Caenorhabditis elegans [C.elegans]
114304	RC_Z40820	AI934204	Hs.16129	ESTs
114364	RC_Z41680	AL117427	Hs.172778	Homo sapiens mRNA; cDNA DKFZp566P013 (from clone DKFZp566P013)
132900	RC_AA005112	AA777749	Hs.5978	LIM domain only 7
129034	RC_AA005432	AA481157	Hs.108110	DKFZP547E2110 protein
131881	RC_AA010163	AW361018	Hs.3383	upstream regulatory element binding protein 1
452461	RC_AA026356	N78223	Hs.108106	transcription factor
114465	RC_AA026901	BE621056	Hs.131731	hypothetical protein FLJ11099
131376	RC_AA036867	AK001644	Hs.26156	hypothetical protein FLJ10782
101567	RC_AA044644	M33552	Hs.56729	lysosomal
431555	RC_AA046426	AI815470	Hs.260024	Cdc42 effector protein 3
132944	RC_AA054515	T96641	Hs.6127	Homo sapiens cDNA: FLJ23020 fis, clone LNG00943
114618	RC_AA084162	AW979261	Hs.291993	ESTs
130274	RC_AA085749	AA128376	Hs.153884	ATP binding protein associated with cell differentiation
110330	RC_AA098874	AI288666	Hs.16621	DKFZP434I116 protein
114648	RC_AA101056	AA101056		gb:zn25b03.s1 Stratagene neuroepithelium NT2RAMI 937234 Homo sapiens cDNA clone IMAGE:548429 3'
114658	RC_AA102746	AA102383	Hs.249190	tumor necrosis factor receptor superfamily, member 10a
132456	RC_AA114250_s	AB011084	Hs.48924	KIAA0512 gene product; ALEX2
131319	RC_AA126561_s	NM_003155	Hs.25590	stanniocalcin 1
132225	RC_AA128980_i	AA128980		gb:zo09a11.s1 Stratagene neuroepithelium NT2RAMI 937234 Homo sapiens cDNA clone IMAGE:567164 3'
132669	RC_AA129757	W38586	Hs.293981	guanine nucleotide binding protein (G protein), gamma 3, linked
114709	RC_AA129921	AA397651	Hs.301959	*proline synthetase co-transcribed (bacterial homolog)*
131973	RC_AA133331	AB018284	Hs.158688	KIAA0741 gene product
114750	RC_AA135958	AA887211	Hs.129467	ESTs
115714	RC_AA136524_s	T19228	Hs.172572	hypothetical protein FLJ20093
114763	RC_AA147044	AA810755	Hs.88977	hypothetical protein dJ511E16.2
114767	RC_AA148885	AI859865	Hs.154443	minichromosome maintenance deficient (S. cerevisiae) 4
114774	RC_AA150043	AV656017	Hs.184325	CGI-76 protein
129388	RC_AA151621	AA662477	Hs.110964	hypothetical protein FLJ23471
129183	RC_AA155743	BE561824	Hs.273369	uncharacterized hematopoietic stem/progenitor cells protein MDS027
128869	RC_AA156335	AA768242	Hs.80618	hypothetical protein
130207	RC_AA156336	AF044209	Hs.144904	nuclear receptor co-repressor 1
114798	RC_AA159181	AA159181	Hs.54900	serologically defined colon cancer antigen 1
114800	RC_AA159825	Z19448	Hs.131887	ESTs, *Weakly similar to T24396 hypothetical protein T03F6.2 - Caenorhabditis elegans* [C.elegans]
114828	RC_AA234185	AA252937	Hs.283522	Homo sapiens mRNA; cDNA DKFZp434J1912 (from clone DKFZp434J1912)
114846	RC_AA234929	BE018682	Hs.166196	ATPase, Class I, type 8B, member 1
114848	RC_AA234935	BE614347	Hs.169615	hypothetical protein FLJ20989
114902	RC_AA236359	AW275480	Hs.39504	hypothetical protein MGC4308
132271	RC_AA236466	AB030034	Hs.115175	sterile-alpha motif and leucine zipper containing kinase AZK
114907	RC_AA236535	N29390	Hs.13804	hypothetical protein dJ462O23.2
135159	RC_AA236935_s	U43374	Hs.95631	Human normal keratinocyte mRNA
132204	RC_AA236942	AA235827	Hs.42265	ESTs
114928	RC_AA237018	AA237018	Hs.94869	ESTs
132481	RC_AA237025	W93378	Hs.49614	ESTs
114932	RC_AA242751	AA971436	Hs.16218	KIAA0903 protein
314162	RC_AA242760	BE041820	Hs.38516	Homo sapiens, clone MGC:15887, mRNA, complete cds
131006	RC_AA242763	AF064104	Hs.22116	CDC14 (cell division cycle 14, S. cerevisiae) homolog B
114935	RC_AA242809	H23329	Hs.290880	ESTs, *Weakly similar to* ALU1_HUMAN ALU SUBFAMILY J SEQUENCE CONTAMINATION WARNING
132454	RC_AA243133	BE296227	Hs.250822	serine/threonine kinase 15
437754	RC_AA243495	R60366	Hs.5822	Homo sapiens cDNA: FLJ22120 fis, clone HEP18874
114957	RC_AA243706	AW170425	Hs.87680	ESTs
114974	RC_AA250848	AW966931	Hs.179662	nucleosome assembly protein 1-like 1
114977	RC_AA250868	AW296978	Hs.87787	ESTs
114995	RC_AA251152	AA769266	Hs.193657	ESTs
115005	RC_AA251544_s	AI760825	Hs.111339	ESTs
417177	RC_AA251792	NM_004458	Hs.81452	fatty-acid-Coenzyme A ligase, long-chain 4
131889	RC_AA252063	NM_002589	Hs.34073	BH-protocadherin (brain-heart)
115026	RC_AA252144	AA251972	Hs.188718	ESTs
115045	RC_AA252524	AW014549	Hs.58373	ESTs
115068	RC_AA253461	AW512260	Hs.87767	ESTs
133138	RC_AA255522	AV657594	Hs.181161	Homo sapiens cDNA FLJ14643 fis, clone NT2RP2001597, weakly similar to RYANODINE RECEPTOR,
115114	RC_AA256468	AA527548	Hs.7527	small fragment nuclease
129584	RC_AA256528	AV656017	Hs.184325	CGI-76 protein
115137	RC_AA257976	AW968304	Hs.56156	ESTs
134312	RC_AA258296	AB011151	Hs.334659	hypothetical protein MGC14139
115166	RC_AA258409	AF095727	Hs.287832	myelin protein zero-like 1
115167	RC_AA258421	AA749209	Hs.43728	hypothetical protein
129807	RC_AA262077	Y11192	Hs.5299	aldehyde dehydrogenase 5 family, member A1 (succinate-semialdehyde dehydrogenase)
115239	RC_AA278650	BE251328	Hs.73291	hypothetical protein FLJ10881
115243	RC_AA278766	AA806600	Hs.116665	KIAA1842 protein

100850	RC_AA279667_s	AA836472	Hs.297939	cathepsin B
126884	RC_AA280791	U49436	Hs.286236	KIAA1856 protein
115322	RC_AA280819	L08895	Hs.78995	MADS box transcription enhancer factor 2, polypeptide C (myocyte enhancer factor 2C)
133626	RC_AA280828	AW836130	Hs.75277	hypothetical protein FLJ13910
115372	RC_AA282195	AW014385	Hs.88678	ESTs, Weakly similar to Unknown [H.sapiens]
132825	RC_AA283127_s	U82671	Hs.57698	Empirically selected from AFFX single probeset
130269	RC_AA284694	F05422	Hs.168352	nucleoporin-like protein 1
129192	RC_AA291137	AA286914	Hs.183299	ESTs
452598	RC_AA291708	AI831594	Hs.68647	ESTs, Weakly similar to ALU7_HUMAN ALU SUBFAMILY SQ SEQUENCE CONTAMINATION WARNING
132131	RC_AA293495	AF069291	Hs.40539	chromosome 8 open reading frame 1
115536	RC_AA347193	AK001468	Hs.62180	anillin (Drosophila Scraps homolog), actin binding protein
132411	RC_AA398474_s	AA059412	Hs.47986	hypothetical protein MGC10940
115575	RC_AA398512	AA393254	Hs.43619	ESTs
115601	RC_AA400277	AA148984	Hs.48849	ESTs, Weakly similar to ALU4_HUMAN ALU SUBFAMILY SB2 SEQUENCE CONTAMINATION WARNING
103928	RC_AA400896	D14540	Hs.199160	myeloid/lymphoid or mixed-lineage leukemia (trithorax (Drosophila) homolog)
125819	RC_AA404494	AA044840	Hs.251871	CTP synthase
115683	RC_AA410345	AF255910	Hs.54650	junctional adhesion molecule 2
115715	RC_AA416733	BE395161	Hs.1390	proteasome (prosome, macropain) subunit, beta type, 2
132952	RC_AA425154	AI658580	Hs.61426	Homo sapiens mesenchymal stem cell protein DSC96 mRNA, partial cds
115819	RC_AA426573	AA486620	Hs.41135	endomucin-2
132525	RC_AA431418	AW292809	Hs.50727	N-acetylglucosaminidase, alpha- (Sanfilippo disease IIIB)
115895	RC_AA436182	AB033035	Hs.51965	KIAA1209 protein
132333	RC_AA437099	AA192669	Hs.45032	ESTs
115962	RC_AA446585	AI636361	Hs.179520	hypothetical protein MGC10702
115967	RC_AA446887	AI745379	Hs.42911	ESTs
115974	RC_AA447224	BE513442	Hs.238944	hypothetical protein FLJ10631
115985	RC_AA447709	AA447709	Hs.268115	ESTs, Weakly similar to T08599 probable transcription factor CA150 [H.sapiens]
129254	RC_AA453624	AA252468	Hs.1098	DKFZp434J1813 protein
133071	RC_AA455044	BE384932	Hs.64313	ESTs, Weakly similar to AF257182 1 G-protein-coupled receptor 48 [H.sapiens]
116095	RC_AA456045	AA043429	Hs.62618	ESTs
122691	RC_AA460454_s	R19768	Hs.172788	ALEX3 protein
116210	RC_AA476494	BE622792	Hs.172788	ALEX3 protein
116213	RC_AA476738	AA292105	Hs.326740	hypothetical protein MGC10947
134585	RC_AA481422	D14041	Hs.278573	H-2K binding factor-2
134790	RC_AA482269	BE002798	Hs.287850	integral membrane protein 1
116265	RC_AA482595	BE297412	Hs.55189	hypothetical protein
129334	RC_AA485084_s	AW157022	Hs.4947	hypothetical protein FLJ22584
116274	RC_AA485431_s	AI129767	Hs.182874	guanine nucleotide binding protein (G protein) alpha 12
303150	RC_AA489057	AA887146	Hs.8217	stromal antigen 2
129945	RC_AA489638	BE514376	Hs.165998	PAI-1 mRNA-binding protein
116331	RC_AA491000	N41300	Hs.71616	Homo sapiens mRNA; cDNA DKFZp586N1720 (from clone DKFZp586N1720)
116333	RC_AA491250	AF155827	Hs.203963	hypothetical protein FLJ10339
132994	RC_AA505133	AA112748	Hs.279905	clone HQ0310 PRO0310p1
134577	RC_AA598447	BE244323	Hs.85951	exportin, tRNA (nuclear export receptor for tRNAs)
116391	RC_AA599243	T86558	Hs.75113	general transcription factor IIIA
116394	RC_AA599574_i	NM_006033	Hs.65370	lipase, endothelial
134531	RC_AA600153	AI742845	Hs.110713	DEK oncogene (DNA binding)
116417	RC_AA609309	AW499664	Hs.12484	Human clone 23826 mRNA sequence
116429	RC_AA609710	AF191018	Hs.279923	putative nucleotide binding protein, estradiol-induced
116439	RC_AA610068	AA251594	Hs.43913	PIBF1 gene product
116459	RC_AA621399	R80137	Hs.302738	Homo sapiens cDNA: FLJ21425 fis, clone COL04162
427505	RC_AA621752	AA361562	Hs.178761	26S proteasome-associated pad1 homolog
132699	RC_C21523	AW449822	Hs.55200	ESTs
116541	RC_D12160	D12160	Hs.249212	polymerase (RNA) III (DNA directed) (155kD)
132557	RC_D19708	AA114926	Hs.5122	ESTs
112259	RC_D25801	AA337548	Hs.333402	hypothetical protein MGC12760
116571	RC_D45652	D45652		gb:HUMGS02848 Human adult lung 3' directed MboI cDNA Homo sapiens cDNA 3', mRNA sequence.
129815	RC_D60208_f	BE565817	Hs.26498	hypothetical protein FLJ21657
421919	RC_D80504_s	AJ224901	Hs.109526	zinc finger protein 198
116643	RC_F03010	AI367044	Hs.153638	myeloid/lymphoid or mixed-lineage leukemia 2
116661	RC_F04247	R61504		gb:yh16a03.s1 Soares infant brain 1NIB Homo sapiens cDNA clone 3' similar to contains Alu repetitive
116715	RC_F10966	AL117440	Hs.170263	tumor protein p53-binding protein, 1
116729	RC_F13700	BE549407	Hs.115823	ribonuclease P, 40kD subunit
318709	RC_H05063	R52576	Hs.285280	Homo sapiens cDNA: FLJ22096 fis, clone HEP16953
134760	RC_H16758	NM_000121	Hs.89548	erythropoietin receptor
116773	RC_H17315_s	AI823410	Hs.169149	karyopherin alpha 1 (importin alpha 5)
106425	RC_H22556	H24201	Hs.247423	adducin 2 (beta)
116780	RC_H22566	H22566	Hs.30098	ESTs
131978	RC_H48459_s	AA355925	Hs.36232	KIAA0186 gene product
116819	RC_H53073	H53073	Hs.93698	EST
111428	RC_H56559_s	AL031428	Hs.174174	KIAA0601 protein
133175	RC_H57957_s	AW955632	Hs.66666	ESTs, Weakly similar to S19560 proline-rich protein MP4 - mouse [M.musculus]

116844	RC_H64938_s	H64938	Hs.337434	ESTs, Weakly similar to A46010 X-linked retinopathy protein [H.sapiens]
116845	RC_H64973	AA649530		gb:ns44f05.s1 NCI_CGAP_Alv1 Homo sapiens cDNA clone, mRNA sequence
116892	RC_H69535	AI573283	Hs.38458	ESTs
116925	RC_H73110	H73110	Hs.260603	ESTs, Moderately similar to A47582 B-cell growth factor precursor [H.sapiens]
116981	RC_H81783	N29218	Hs.40290	ESTs
131768	RC_H86259	AC005757	Hs.31809	hypothetical protein
117031	RC_H88353	H88353		gb:yw21a02.s1 Morton Fetal Cochlea Homo sapiens cDNA clone IMAGE:252842 3' similar to contains L1
117034	RC_H88639	U72209	Hs.180324	YY1-associated factor 2
132542	RC_H88675	AL137751	Hs.263671	Homo sapiens mRNA; cDNA DKFZp434I0812 (from clone DKFZp434I0812); partial cds
134403	RC_H93708_s	AA334551	Hs.82767	*sperm specific antigen 2*
117280	RC_N22107	M18217	Hs.172129	Homo sapiens cDNA: FLJ21409 fis, clone COL03924
117344	RC_N24046	R19085	Hs.210706	Homo sapiens cDNA FLJ13182 fis, clone NT2RP3004070
117422	RC_N27028	AI355562	Hs.43880	ESTs, Weakly similar to A46010 X-linked retinopathy protein [H,sapiens]
117475	RC_N30205	N30205	Hs.93740	ESTs, Weakly similar to I38022 hypothetical protein [H.sapiens]
117487	RC_N30621	N30621	Hs.44203	ESTs
130207	RC_N33258	AF044209	Hs.144904	nuclear receptor co-repressor 1
117549	RC_N33390	N33390	Hs.44483	EST
117683	RC_N40180	N40180		gb:yy44d02.s1 Soares_multiple_sclerosis_2NbHMSP Homo sapiens cDNA clone IMAGE:276387 3' similar to
117710	RC_N45198	N45198	Hs.47248	ESTs, Highly similar to similar to Cdc14B1 phosphatase [H.sapiens]
104514	RC_N45979_s	AF164622	Hs.182982	golgin-67
117791	RC_N48325	N48325	Hs.93956	EST
117822	RC_N48913	AA706282	Hs.93963	ESTs
129647	RC_N49394	AB018259	Hs.118140	KIAA0716 gene product
117895	RC_N50656	AW450348	Hs.93996	ESTs, Highly similar to SORL_HUMAN SORTILIN-RELATED RECEPTOR PRECURSOR [H.sapiens]
131557	RC_N50721	AA317439	Hs.28707	signal sequence receptor, gamma (translocon-associated protein gamma)
133057	RC_N53143	AA465131	Hs.64001	Homo sapiens clone 25218 mRNA sequence
118103	RC_N55326	AA401733	Hs.184134	ESTs
118111	RC_N55493	N55493		gb:yv50c02.s1 Soares fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE:246146 3', mRNA
118129	RC_N57493	N57493		gb:yy54c08.s1 Soares_multiple_sclerosis_2NbHMSP Homo sapiens cDNA clone IMAGE:277358 3', mRNA
118278	RC_N62955	N62955	Hs.316433	Homo sapiens cDNA FLJ11375 fis, clone HEMBA1000411, weakly similar to ANKYRIN
118329	RC_N63520	N63520		gb:yy62f01.s1 Soares_multiple_sclerosis_2NbHMSP Homo sapiens cDNA clone IMAGE:278137 3', mRNA
118336	RC_N63604	BE327311	Hs.47166	HT021
132457	RC_N64166	AB017365	Hs.173859	frizzled (Drosophila) homolog 7
118363	RC_N64168	AI183838	Hs.48938	hypothetical protein FLJ21802
118364	RC_N64191	N46114	Hs.29169	hypothetical protein FLJ22623
118475	RC_N66845	N66845		gb:za46c11.s1 Soares fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE:295604 3' similar to
118491	RC_N67135	AV647908	Hs.90424	Homo sapiens cDNA: FLJ23285 fis, clone HEP09071
118500	RC_N67295	W32889	Hs.154329	ESTs
101663	RC_N68399	NM_003528	Hs.2178	H2B histone family, member Q
118584	RC_N68963	AW136928		gb:UI-H-BI1-adp-d-08-0-UI.s1 NCI_CGAP_Sub3 Homo sapiens cDNA clone 3', mRNA sequence
421983	RC_N69331	AI252640	Hs.110364	peptidylprolyl isomerase C (cyclophilin C)
118661	RC_N70777	AL137554	Hs.49927	protein kinase NYD-SP15
118684	RC_N71364_s	N71313	Hs.163986	Homo sapiens cDNA: FLJ22765 fis, clone KAIA1180
118689	RC_N71545_s	AW390601	Hs.184544	Homo sapiens, clone IMAGE:3355383, mRNA, partial cds
118690	RC_N71571	N71571	Hs.269142	ESTs
118766	RC_N74456	N74456	Hs.50499	EST
118793	RC_N75594	N75594	Hs.285921	ESTs, Moderately similar to T47135 hypothetical protein DKFZp761L0812.1 [H.sapiens]
118817	RC_N79035	AI668658	Hs.50797	ESTs
118844	RC_N80279	AL035364	Hs.50891	hypothetical protein
118919	RC_N91797	AW452696	Hs.130760	myosin phosphatase, target subunit 2
129558	RC_N92454	AW580922	Hs.180446	karyopherin (importin) beta 1
132692	RC_N94581	AW191962	Hs.249239	collagen, type VIII, alpha 2
118996	RC_N94746	N94746	Hs.274248	hypothetical protein FLJ20758
119021	RC_N98238	N98238	Hs.55185	ESTs
119039	RC_R02384	AI160570	Hs.252097	*pregnancy specific beta-1-glycoprotein 6*
119063	RC_R16833	R16833	Hs.53106	ESTs, Moderately similar to ALU1_HUMAN ALU SUBFAMILY J SEQUENCE CONTAMINATION WARNING
118523	RC_R41828_s	Y07759	Hs.170157	myosin VA (heavy polypeptide 12, myoxin)
119111	RC_R43203	T02865	Hs.328321	EST
133970	RC_R46395	AA214228	Hs.127751	hypothetical protein
119146	RC_R58863	R58863	Hs.91815	ESTs
120296	RC_R78248	AW995911	Hs.299883	hypothetical protein FLJ23399
119239	RC_T11483	T11483		gb:CHR90049 Chromosome 9 exon Homo sapiens cDNA clone 111-1 5' and 3', mRNA sequence.
119281	RC_T16896	AI692322	Hs.65373	ESTs, Weakly similar to T02345 hypothetical protein KIAA0324 [H.sapiens]
119298	RC_T23820	NM_001241	Hs.155478	cyclin T2
126502	RC_T30222	T10077	Hs.13453	hypothetical protein FLJ14753
135073	RC_W15275_s	W55956	Hs.94030	Homo sapiens mRNA; cDNA DKFZp586E1624 (from clone DKFZp586E1624)

119558	RC_W38194	W38194		Empirically selected from AFFX single probeset
132736	RC_W42414_s	AW081883	Hs.288261	Homo sapiens cDNA: FLJ23037 fis, clone LNG02036, highly similar to HSU68019 Homo sapiens mad protein
132173	RC_W46577_s	X89426	Hs.41716	endothelial cell-specific molecule 1
134873	RC_W49632_s	AA884471	Hs.90449	Human clone 23908 mRNA sequence
119650	RC_W57613	R82342	Hs.79856	ESTs, Weakly similar to S65657 alpha-1C-adrenergic receptor splice form 2 [H.sapiens]
119654	RC_W57759	W57759		gb:zd20g11.s1 Soares_fetal_heart_NbHH19W Homo sapiens cDNA clone IMAGE:341252 3' similar to
119683	RC_W61118	W65379	Hs.57835	ESTs
119694	RC_W65344	AA041350	Hs.57847	ESTs, Moderately similar to ICE4_HUMAN CASPASE-4 PRECURSOR [H.sapiens]
119718	RC_W69216	W69216	Hs.92848	ESTs
133010	RC_W69379	AI287518	Hs.62669	Homo sapiens mRNA; cDNA DKFZp586D0923 (from clone DKFZp586D0923)
119938	RC_W86728	AW014862	Hs.58885	ESTs
120128	RC_Z38499	BE379320	Hs.91448	MKP-1 like protein tyrosine phosphatase
120130	RC_Z38630	AA045767	Hs.5300	bladder cancer associated protein
120148	RC_Z39494	F02806	Hs.65765	ESTs
120155	RC_Z39623	Z39623	Hs.65783	ESTs
131486	RC_Z40071_s	F06972	Hs.27372	BMX non-receptor tyrosine kinase
120183	RC_Z40174	AW082866	Hs.65882	ESTs
120184	RC_Z40182	Z40182	Hs.65885	EST
120211	RC_Z40904	Z40904	Hs.66012	EST
120245	RC_AA166965	AW959615	Hs.111045	ESTs
120247	RC_AA167500	AA167500	Hs.103939	EST
120254	RC_AA169599_s	W90403	Hs.111054	ESTs
120259	RC_AA171724	AW014786	Hs.192742	hypothetical protein FLJ12785
120260	RC_AA171739	AK000061	Hs.101590	hypothetical protein
120275	RC_AA177105	AA177105	Hs.78457	solute carrier family 25 (mitochondrial carrier; ornithine transporter) member 15
120284	RC_AA182626	AA179656		gb:zp54e11.s1 Stratagene NT2 neuronal precursor 937230 Homo sapiens cDNA clone 3' similar to contains
114056	RC_AA186324	AA188175	Hs.82506	KIAA1254 protein
129507	RC_AA192099	AJ236885	Hs.112180	zinc finger protein 148 (pHZ-52)
120302	RC_AA192173	AA837098	Hs.269933	ESTs
120303	RC_AA192415	AI216292	Hs.96184	ESTs
120305	RC_AA192553	AW295096	Hs.101337	uncoupling protein 3 (mitochondrial, proton carrier)
120319	RC_AA194851	T57776	Hs.191094	ESTs
133389	RC_AA195520_s	AA195764	Hs.72639	ESTs
120326	RC_AA196300	AA196300	Hs.21145	hypothetical protein RG083M05.2
134272	RC_AA196517	X76040	Hs.278614	protease, serine, 15
133145	RC_AA196549	H94227	Hs.6592	Homo sapiens, clone IMAGE:2961368, mRNA, partial cds
120327	RC_AA196721	AK000292	Hs.278732	hypothetical protein FLJ20285
106686	RC_AA196729_i	N66397	Hs.334825	Homo sapiens cDNA FLJ14752 fis, clone NT2RP3003071
120328	RC_AA196979	AA923278	Hs.290905	ESTs, Weakly similar to protease [H.sapiens]
120340	RC_AA206828	AA206828		gb:zq80b08.s1 Stratagene hNT neuron (937233) Homo sapiens cDNA clone IMAGE:647895 3' similar to
134292	RC_AA207123	AI906291	Hs.81234	immunoglobulin superfamily, member 3
131522	RC_AA214539_i	AI380040	Hs.239489	TIA1 cytotoxic granule-associated RNA-binding protein
129051	RC_AA226914_s	AA227068	Hs.108301	nuclear receptor subfamily 2, group C, member 1
120375	RC_AA227260	AF028706	Hs.111227	Zic family member 3 (odd-paired Drosophila homolog, heterotaxy 1)
120376	RC_AA227469	AA227469		gb:zr18a07.s1 Stratagene NT2 neuronal precursor 937230 Homo sapiens cDNA clone IMAGE:663732 3', mRNA sequence.
120390	RC_AA233122	AA837093	Hs.111460	calcium/calmodulin-dependent protein kinase (CaM kinase) II delta
303876	RC_AA233334_s	U64820	Hs.66521	Machado-Joseph disease (spinocerebellar ataxia 3, olivopontocerebellar ataxia 3, autosomal dominant, ataxin 3)
132038	RC_AA233347	AI825842	Hs.3776	zinc finger protein 216
104463	RC_AA233519	T85825	Hs.246885	hypothetical protein FLJ20783
125750	RC_AA233714	AA018515	Hs.264482	Homo sapiens mRNA; cDNA DKFZp761A0411 (from clone DKFZp761A0411)
120396	RC_AA233796	AA134006	Hs.79306	eukaryotic translation initiation factor 4E
120409	RC_AA235050_f	AA235050		gb:zs38e04.s1 Soares_NhHMPu_S1 Homo sapiens cDNA clone IMAGE:687486 3' similar to gb:L07077
120414	RC_AA235704	AW137156	Hs.181202	hypothetical protein FLJ10038
120420	RC_AA236031	AI128114	Hs.112885	spinal cord-derived growth factor-B
120422	RC_AA236352	AL133097	Hs.301717	hypothetical protein DKFZp434N1928
132221	RC_AA236390_s	W94915	Hs.42419	ESTs
120423	RC_AA236453	AA236453	Hs.18978	Homo sapiens cDNA: FLJ22822 fis, clone KAIA3968
120435	RC_AA243370	AA243370	Hs.96450	EST
120453	RC_AA250947	AA250947	Hs.170263	tumor protein p53-binding protein, 1
120455	RC_AA251083	AA251720	Hs.104347	ESTs, Weakly similar to ALUC_HUMAN !!!! ALU CLASS C WARNING ENTRY !!! [H.sapiens]
120456	RC_AA251113	AA488750	Hs.88414	BTB and CNC homology 1, basic leucine zipper transcription factor 2
120473	RC_AA251973	AA251973	Hs.269988	ESTs
128922	RC_AA252023	AI244901	Hs.9589	ubiquilin 1
120477	RC_AA252414	AA252414	Hs.43141	DKFZP727C091 protein
120479	RC_AA252650	AF006689	Hs.110299	mitogen-activated protein kinase kinase 7
120488	RC_AA255523	AW952916	Hs.63510	KIAA0141 gene product
120510	RC_AA258128	AI796395	Hs.111377	ESTs
120527	RC_AA262105	AA262105	Hs.4094	Homo sapiens cDNA FLJ14208 fis, clone NT2RP3003264
120528	RC_AA262107	AI923511	Hs.104413	ESTs

120529	RC_AA262235	AI434823	Hs.104415	ESTs
120541	RC_AA278298	W07318	Hs.240	M-phase phosphoprotein 1
131445	RC_AA278529_i	NM_014264	Hs.172052	serine/threonine kinase 18
120544	RC_AA278721	BE548277	Hs.103104	ESTs
120562	RC_AA280036	BE244580	Hs.302267	hypothetical protein FLJ10330
120569	RC_AA280648	AA807544	Hs.24970	ESTs, Weakly similar to B34323 GTP-binding protein Rab2 [H.sapiens]
120571	RC_AA280738	AB037744	Hs.34892	KIAA1323 protein
120572	RC_AA280794	H39599	Hs.294008	ESTs
129434	RC_AA280837	AW967495	Hs.186644	ESTs
130529	RC_AA280886	AA178953		gb:zp39e03.s1 Stratagene muscle 937209 Homo sapiens cDNA clone 3' similar to contains Alu repetitive
120575	RC_AA280934	AW978022	Hs.238911	hypothetical protein DKFZp762E1511; KIAA1816 protein
132635	RC_AA281535	AB020686	Hs.54037	ectonucleotide pyrophosphatase/phosphodiesterase 4 (putative function)
120591	RC_AA281797_s	AF078847	Hs.191356	general transcription factor IIH, polypeptide 2 (44kD subunit)
120593	RC_AA282047	AA748355	Hs.193522	ESTs
430275	RC_AA283002	Z11773	Hs.237786	zinc finger protein 187
117729	RC_AA283709	AA306166	Hs.7145	calpain 7
120609	RC_AA283902	AW978721	Hs.266076	ESTs, Weakly similar to A46010 X-linked retinopathy protein [H.sapiens]
132754	RC_AA284108	AI752244	Hs.75309	eukaryotic translation elongation factor 2
130315	RC_AA284109	AI241084	Hs.154353	nonselective sodium potassium/proton exchanger
132614	RC_AA284371	AA284371	Hs.118064	similar to rat nuclear ubiquitous casein kinase 2
447503	RC_AA284744_f	AA115496	Hs.336898	Homo sapiens, Similar to RIKEN cDNA 1810038N03 gene, clone MGC:9890, mRNA, complete cds
135376	RC_AA284784	BE617856	Hs.99756	mitochondrial ribosome recycling factor
120621	RC_AA284840	AW961294	Hs.143818	hypothetical protein FLJ23459
107868	RC_AA286844	AA286844	Hs.61260	hypothetical protein FLJ13164
129868	RC_AA287032	AW172431	Hs.13012	ESTs
120644	RC_AA287038	AI869129	Hs.96616	ESTs
120660	RC_AA287546	AA286785	Hs.99677	ESTs
135370	RC_AA287553_s	BE622187	Hs.99670	ESTs, Weakly similar to I38022 hypothetical protein [H.sapiens]
120661	RC_AA287556	AA287556	Hs.263412	ESTs, Weakly similar to ALUB_HUMAN !!!! ALU CLASS B WARNING ENTRY !!! [H.sapiens]
129116	RC_AA287564	AB019494	Hs.225767	IDN3 protein
131567	RC_AA291015_s	AF015592	Hs.28853	CDC7 (cell division cycle 7, S. cerevisiae, homolog)-like 1
120699	RC_AA291716	AI683243	Hs.97258	ESTs, Moderately similar to S29539 ribosomal protein L13a, cytosolic [H.sapiens]
100690	RC_AA291749_s	AA383256	Hs.1657	estrogen receptor 1
120726	RC_AA293656	AA293655	Hs.97293	ESTs
120737	RC_AA302430	AL049176	Hs.82223	chordin-like
120745	RC_AA302809	AA302809		gb:EST10426 Adipose tissue, white I Homo sapiens cDNA 3' end, mRNA sequence.
135192	RC_AA302820_s	U83993	Hs.321709	purinergic receptor P2X, ligand-gated ion channel, 4
120750	RC_AA310499	AI191410	Hs.96693	ESTs, Moderately similar to 2109260A B cell growth factor [H.sapiens]
120761	RC_AA321890	AA321890	Hs.1265	branched chain keto acid dehydrogenase E1, beta polypeptide (maple syrup urine disease)
120768	RC_AA340589	AA340589	Hs.104560	EST
120769	RC_AA340622	AI769467	Hs.96769	ESTs
135232	RC_AA342457_i	AL038812	Hs.96800	ESTs, Moderately similar to ALU7_HUMAN ALU SUBFAMILY SQ SEQUENCE CONTAMINATION
133439	RC_AA342828_s	Z23091	Hs.73734	glycoprotein V (platelet)
120793	RC_AA342864	AA342864	Hs.96812	ESTs
120796	RC_AA342973	AI247356	Hs.96820	ESTs
120809	RC_AA346495	AA346495		gb:EST52657 Fetal heart II Homo sapiens cDNA 3' end similar to EST containing O family repeat, mRNA sequence.
132459	RC_AA347573	AL120071	Hs.48998	fibronectin leucine rich transmembrane protein 2
120825	RC_AA347614	AI280215	Hs.96885	ESTs
120827	RC_AA347717	AA382525	Hs.132967	Human EST clone 122887 mariner transposon Hsmar1 sequence
120839	RC_AA348913	AA348913		gb:EST55442 Infant adrenal gland II Homo sapiens cDNA 3' end similar to EST containing Alu repeat, mRNA sequence.
120850	RC_AA349647	AA349647	Hs.96927	Homo sapiens cDNA FLJ12573 fis, clone NT2RM4000979
120852	RC_AA349773	AA349773	Hs.191564	ESTs
128852	RC_AA350541_s	R40622	Hs.106601	ESTs
135240	RC_AA357159_i	AA357159	Hs.96986	EST
120870	RC_AA357172_i	AA357172	Hs.292581	ESTs, Moderately similar to ALU1_HUMAN ALU SUBFAMILY J SEQUENCE CONTAMINATION WARNING
134637	RC_AA369856_s	U87309	Hs.180941	vacuolar protein sorting 41 (yeast homolog)
120894	RC_AA370132	AA370132	Hs.97063	ESTs
131854	RC_AA370472_s	AF229839	Hs.173202	I-kappa-B-interacting Ras-like protein 1
120897	RC_AA370867	AA370867	Hs.97079	ESTs, Moderately similar to AF174605 1 F-box protein Fbx25 [H.sapiens]
120915	RC_AA377296	AL135556	Hs.97104	ESTs
120935	RC_AA383902	AL048409	Hs.97177	ESTs, Weakly similar to ALU1_HUMAN ALU SUBFAMILY J SEQUENCE CONTAMINATION WARNING
120936	RC_AA385934	AA385934	Hs.97184	EST, Highly similar to (defline not available 7499603) [C.elegans]
120937	RC_AA386255	AA386255	Hs.97186	EST
120938	RC_AA386260	AA386260	Hs.104632	EST
129722	RC_AA386266	R20855	Hs.5422	glycoprotein M6B
120960	RC_AA398014	AA398014	Hs.104684	EST
120985	RC_AA398222	AI219896	Hs.97592	ESTs
120988	RC_AA398235	AA398235	Hs.97631	ESTs

121008	RC_AA398348	AA398348	Hs.301720	Human DNA sequence from clone RP11-251J8 on chromosome 13 Contains ESTs, STSs, GSSs and a CpG
121029	RC_AA398482	AA398482	Hs.97641	EST
121032	RC_AA398504	AA393037	Hs.161798	ESTs
121033	RC_AA398505	AA398505	Hs.97360	ESTs
121034	RC_AA398507	AL389951	Hs.271623	nucleoporin 50kD
121035	RC_AA398523	AA398523	Hs.210579	ESTs
121058	RC_AA398625	AA398625	Hs.97391	ESTs
121060	RC_AA398632	AA398632	Hs.97395	ESTs
121061	RC_AA398633	AA393288	Hs.97396	ESTs
121091	RC_AA398894	AA398894	Hs.97657	ESTs, Moderately similar to ALU8_HUMAN ALU SUBFAMILY SX SEQUENCE CONTAMINATION
121092	RC_AA398895	AA398895	Hs.97658	EST
121094	RC_AA398900	AA402505		gb:zt62h10.r1 Soares_testis_NHT Homo sapiens cDNA clone 5', mRNA sequence
121096	RC_AA398904	AA398904	Hs.332690	ESTs
121115	RC_AA399122	AA398187	Hs.104682	ESTs, Weakly similar to mitochondrial citrate transport protein [H.sapiens]
121121	RC_AA399371	AA399371	Hs.189095	similar to SALL1 (sal (Drosophila)-like
121122	RC_AA399373	AI126713	Hs.192233	ESTs, Highly similar to T00337 hypothetical protein KIAA0568 [H.sapiens]
121125	RC_AA399441	AL042981	Hs.251278	KIAA1201 protein
121151	RC_AA399636	AA399636	Hs.143629	ESTs
121153	RC_AA399640	AA399640	Hs.97694	ESTs
121163	RC_AA399680	AI676062	Hs.111902	ESTs
121176	RC_AA400080	AL121523	Hs.97774	ESTs
121192	RC_AA400262	AA400262	Hs.190093	ESTs
121223	RC_AA400725	AI002110	Hs.97169	ESTs, Weakly similar to dJ667H12.2.1 [H.sapiens]
121227	RC_AA400748	AA400748	Hs.97823	Homo sapiens mRNA; cDNA DKFZp434D024 (from clone DKFZp434D024)
121231	RC_AA400780	AA814948	Hs.96343	ESTs, Weakly similar to ALUC_HUMAN !!!! ALU CLASS C WARNING ENTRY !!! [H.sapiens]
121278	RC_AA401631	AA037121	Hs.98518	Homo sapiens cDNA FLJ11490 fis, clone HEMBA1001918
121279	RC_AA401688	AA292873	Hs.177996	ESTs
121282	RC_AA401695	AA401695	Hs.97334	ESTs
121299	RC_AA402227	AA402227	Hs.22826	tropomodulin 3 (ubiquitous)
121301	RC_AA402329	NM_006202	Hs.89901	phosphodiesterase 4A, cAMP-specific (dunce (Drosophila)-homolog phosphodiesterase E2)
121302	RC_AA402398	AA402587	Hs.325520	LAT1-3TM protein
121304	RC_AA402449	AA293863	Hs.97316	EST
121305	RC_AA402468	AA402468	Hs.291557	ESTs
134721	RC_AA403268_s	AK000112	Hs.89306	hypothetical protein FLJ20105
121323	RC_AA403314	AA291411	Hs.97247	ESTs
121324	RC_AA404229	AA404229	Hs.97842	EST
129047	RC_AA404260	AI768623	Hs.108264	ESTs
131074	RC_AA404271	U16125	Hs.181581	glutamate receptor, ionotropic, kainate 1
121344	RC_AA405026	AA405026	Hs.193754	ESTs
121348	RC_AA405182	AA405182	Hs.97973	ESTs
121350	RC_AA405237	AA405237		gb:zt06e10.s1 NCI_CGAP_GCB1 Homo sapiens cDNA clone IMAGE:712362 3' similar to contains Alu
121400	RC_AA406061	AA406061	Hs.98001	EST
121402	RC_AA406063	AA406063	Hs.98003	ESTs
121403	RC_AA406070	AA406070	Hs.98004	EST
121408	RC_AA406137	AA406137	Hs.98019	EST
121431	RC_AA406335	AA035279	Hs.176731	ESTs
132936	RC_AA411801	AL120659	Hs.6111	aryl-hydrocarbon receptor nuclear translocator 2
121471	RC_AA411804	AA411804	Hs.261575	ESTs
121474	RC_AA411833	AA402335	Hs.188760	ESTs, Highly similar to Trad [H.sapiens]
121526	RC_AA412219	AW665325	Hs.98120	ESTs
121530	RC_AA412259	AA778658	Hs.98122	ESTs
121558	RC_AA412497	AA412497		gb:zt95g12.s1 Soares_testis_NHT Homo sapiens cDNA clone IMAGE:730150 3' similar to contains L1.t3 L1
121559	RC_AA412498	AI192044	Hs.104778	ESTs
121584	RC_AA416586	AI024471	Hs.98232	ESTs
121609	RC_AA416867	AA416867	Hs.98185	EST
121612	RC_AA416874	AA416874	Hs.98168	ESTs
121737	RC_AA421133	AA421133	Hs.104671	erythrocyte transmembrane protein
121740	RC_AA421138	AA421138	Hs.98334	EST
129194	RC_AA422079	AA150797	Hs.109276	latexin protein
121784	RC_AA423837	T90789	Hs.94308	RAB35, member RAS oncogene family
121802	RC_AA424328	AI251870	Hs.188898	ESTs
121803	RC_AA424339	AI338371	Hs.157173	ESTs
135286	RC_AA424469_s	AW023482	Hs.97849	ESTs
121806	RC_AA424502	AA424313	Hs.98402	ESTs
129517	RC_AA425004	AW972853	Hs.112237	ESTs
121845	RC_AA425734	AI732692	Hs.165066	ESTs, Moderately similar to ALU2_HUMAN ALU SUBFAMILY SB SEQUENCE CONTAMINATION
121853	RC_AA425887	AA425887	Hs.98502	hypothetical protein FLJ14303
121891	RC_AA426456	AA426456	Hs.98469	ESTs
121895	RC_AA427396	AA427396		gb:zw33a02.s1 Soares ovary tumor NbHOT Homo sapiens cDNA clone IMAGE:771050 3' similar to contains
121899	RC_AA427555	R55341	Hs.50421	KIAA0203 gene product

121917	RC_AA428218	AA406397	Hs.98038	ESTs
121918	RC_AA428242	BE274689	Hs.184175	chromosome 2 open reading frame 3
121919	RC_AA428281	AA428281	Hs.98560	EST
121941	RC_AA428865	AA428865	Hs.98563	ESTs
121942	RC_AA428994	AW452701	Hs.293237	ESTs
121970	RC_AA429666	AA429666	Hs.98617	EST
121993	RC_AA430181	AW297880	Hs.98661	ESTs
134660	RC_AA430184_s	U73524	Hs.87465	ATP/GTP-binding protein
126753	RC_AA431288_s	AA306478	Hs.95327	CD3D antigen, delta polypeptide (TiT3 complex)
122022	RC_AA431293	AA431293	Hs.98716	ESTs, Moderately similar to T42650 hypothetical protein DKFZp434D0215.1 [H.sapiens]
122050	RC_AA431478	AI453076	Hs.166109	ELAV (embryonic lethal, abnormal vision, Drosophila)-like 2
122051	RC_AA431492	AA431492	Hs.98742	EST
122055	RC_AA431732	AA431732	Hs.98747	EST
122105	RC_AA432278	AW241685	Hs.98699	ESTs
122125	RC_AA434411	AK000492	Hs.98806	hypothetical protein
135235	RC_AA435512_i	AW298244	Hs.293507	ESTs
122162	RC_AA435698	AA628233	Hs.79946	cytochrome P450, subfamily XIX (aromatization of androgens)
129406	RC_AA435711	AB018255	Hs.111138	KIAA0712 gene product
318801	RC_AA435815_s	U40763	Hs.77965	peptidyl-prolyl isomerase G (cyclophilin G)
122186	RC_AA435842	AA398811	Hs.104673	ESTs
122235	RC_AA436475	AA436475	Hs.112227	membrane-associated nucleic acid binding protein
129131	RC_AA436489	AB026436	Hs.177534	*dual specificity phosphatase 10*
134664	RC_AA442060	AA256106	Hs.87507	ESTs
122310	RC_AA442079	AW192803	Hs.98974	ESTs, Weakly similar to S65824 reverse transcriptase homolog [H.sapiens]
122334	RC_AA443151	BE465894	Hs.98365	ESTs, Weakly similar to LB4D_HUMAN NADP-DEPENDENT LEUKOTRIENE B4 12-
122382	RC_AA446133	AA446440	Hs.98643	ESTs
122425	RC_AA447145	AB007859	Hs.100955	KIAA0399 protein
122431	RC_AA447398	AA447398	Hs.99104	ESTs
122450	RC_AA447643	AA447643	Hs.112095	hypothetical protein DKFZp434F1819
302653	RC_AA447742_s	AJ404468	Hs.284259	dynein, axonemal, heavy polypeptide 9
122477	RC_AA448226	AA448226	Hs.324123	ESTs
122500	RC_AA448825	AA448825	Hs.99190	ESTs
122522	RC_AA449444	AA299607	Hs.98969	ESTs
122536	RC_AA450087	AF060877	Hs.99236	regulator of G-protein signalling 20
122538	RC_AA450211	AA450211	Hs.99239	ESTs
122540	RC_AA450244	AA476741	Hs.98279	ESTs, Weakly similar to A43932 mucin 2 precursor, intestinal [H.sapiens]
122560	RC_AA452123	AW392342	Hs.283077	centrosomal P4.1-associated protein; *uncharacterized bone marrow protein BM032*
421919	RC_AA452155	AJ224901	Hs.109526	zinc finger protein 198
122562	RC_AA452156	AA452156		gb:zx29c03.s1 Soares_total_fetus_Nb2HF8_9w Homo sapiens cDNA clone IMAGE:787876 3', mRNA
122585	RC_AA453036	AI681654	Hs.170737	hypothetical protein FLJ23251
122608	RC_AA453526	AA453525	Hs.143077	ESTs
122635	RC_AA454085	AA454085		gb:zx33a08.s1 Soares_total_fetus_Nb2HF8_9w Homo sapiens cDNA clone IMAGE:788246 3' similar to
122636	RC_AA454103	AW651706	Hs.99519	hypothetical protein FLJ14007
122653	RC_AA454642	AW009166	Hs.99376	ESTs
122660	RC_AA454935	AI816827	Hs.180069	nuclear respiratory factor 1
122703	RC_AA456323	AA456323	Hs.269369	ESTs
122724	RC_AA457395	AA457395	Hs.99457	ESTs
122749	RC_AA458850	AA458850	Hs.293372	ESTs, Weakly similar to B34087 hypothetical protein [H.sapiens]
122772	RC_AA459662	AW117452	Hs.99489	ESTs
131098	RC_AA459668	U66669	Hs.236642	3-hydroxyisobutyryl-Coenzyme A hydrolase
129045	RC_AA459679_s	AI082883	Hs.30732	hypothetical protein FLJ13409; KIAA1711 protein
122777	RC_AA459702	AK001022	Hs.214397	hypothetical protein FLJ10160 similar to insulin related protein 2
135362	RC_AA460017_f	AA978128	Hs.99513	ESTs, Weakly similar to T17454 diaphanous-related formin - mouse [M.musculus]
122798	RC_AA460324	AW366286	Hs.145696	splicing factor (CC1.3)
122837	RC_AA461509	AA461509	Hs.293565	ESTs, Weakly similar to putative p150 [H.sapiens]
122860	RC_AA464414_i	AA464414		gb:zx78g01.s1 Soares ovary tumor NbHOT Homo sapiens cDNA clone IMAGE:809904 3', mRNA sequence.
122861	RC_AA464428	AA335721	Hs.119394	ESTs
122910	RC_AA470084	AA470084	Hs.98358	ESTs
132899	RC_AA476606_s	AA476606	Hs.59666	SMAD in the antisense orientation
122967	RC_AA478521	AA806187	Hs.289101	glucose regulated protein, 58kD
129560	RC_AA478523	AA317841	Hs.7845	hypothetical protein MGC2752
123009	RC_AA479949	AA535244	Hs.78305	RAB2, member RAS oncogene family
128917	RC_AA481252	AI365215	Hs.206097	oncogene TC21
123081	RC_AA485351	AI815486	Hs.243901	Homo sapiens cDNA FLJ20738 fis, clone HEP08257
123133	RC_AA487264	AA487264	Hs.154974	Homo sapiens mRNA; cDNA DKFZp667N064 (from clone DKFZp667N064)
123184	RC_AA489072	BE247767	Hs.18166	KIAA0870 protein
129671	RC_AA489630	NM_014700	Hs.119004	KIAA0665 gene product
123233	RC_AA490225	AW974175	Hs.188751	ESTs, Weakly similar to MAPB_HUMAN MICROTUBULE-ASSOCIATED PROTEIN 1B [H.sapiens]
123234	RC_AA490227	NM_001938	Hs.16697	down-regulator of transcription 1, TBP-binding (negative cofactor 2)
123236	RC_AA490255	AW968504	Hs.123073	CDC2-related protein kinase 7
123255	RC_AA490890	AA830335	Hs.105273	ESTs
129503	RC_AA490916_s	AW768399	Hs.112157	ESTs

131043	RC_AA490925	AF084535	Hs.22464	epilepsy, progressive myoclonus type 2, Lafora disease (laforin)
123259	RC_AA490955	AI744152	Hs.283374	ESTs, Weakly similar to CA15_HUMAN COLLAGEN ALPHA 1(V) CHAIN PRECURSOR [H.sapiens]
123284	RC_AA495812	AA488988	Hs.293796	ESTs
123286	RC_AA495824	AA495824	Hs.188822	ESTs, Weakly similar to A46010 X-linked retinopathy protein [H.sapiens]
123315	RC_AA496369	AA496369		gb:zv37d10.s1 Soares ovary tumor NbHOT Homo sapiens cDNA clone IMAGE:755827 3' similar to contains
129179	RC_AA504125_s	AW969025	Hs.109154	ESTs
131612	RC_AA521473	AU076668	Hs.334884	SEC10 (S. cerevisiae)-like 1
123421	RC_AA598440	AA598440	Hs.291154	EST, Weakly similar to I38022 hypothetical protein [H.sapiens]
123449	RC_AA598899_i	AL049325	Hs.112493	Homo sapiens mRNA; cDNA DKFZp564D036 (from clone DKFZp564D036)
129021	RC_AA599244	AL044675	Hs.173081	KIAA0530 protein
132830	RC_AA599694_s	NM_014777	Hs.57730	KIAA0133 gene product
123497	RC_AA600037	AA765256	Hs.135191	ESTs, *Weakly similar to unnamed protein product* [H.sapiens]
123604	RC_AA609135	AA609135	Hs.293076	ESTs
129539	RC_AA609582	T47614	Hs.323022	ESTs, Highly similar to p60 katanin [H.sapiens]
123712	RC_AA609684	AA609684	Hs.112748	Homo sapiens cDNA: FLJ21543 fis, clone COL06171
123731	RC_AA609839	AA609839		gb:ae62f01.s1 Stratagene lung carcinoma 937218 Homo sapiens cDNA clone IMAGE:951481 3' similar to
130725	RC_AA609862	T98807	Hs.80248	RNA-binding protein gene with multiple splicing
123800	RC_AA620423	AA620423	Hs.112862	EST
123841	RC_AA620747	AA620747	Hs.112896	ESTs
123929	RC_AA621364	AA621364	Hs.112981	ESTs
123978	RC_C20653	T89832	Hs.170278	ESTs
133184	RC_D20085	AA001021	Hs.6685	thyroid hormone receptor interactor 8
132835	RC_D20749	Z83844	Hs.5790	hypothetical protein dJ37E16.5
132406	RC_D51285_s	AL133731	Hs.4774	Homo sapiens mRNA; cDNA DKFZp761C1712 (from clone DKFZp761C1712)
128695	RC_D59972_i	NM_003478	Hs.101299	*cullin 5*
124028	RC_F04112_f	F04112		gb:HSC2JH062 normalized infant brain cDNA Homo sapiens cDNA clone c-2jh06 3', mRNA sequence.
124057	RC_F13604	AA902384	Hs.73853	bone morphogenetic protein 2
134899	RC_H01662	AI609045	Hs.321775	hypothetical protein DKFZp434D1428
130973	RC_H05135_i	AI638418	Hs.78580	*DEAD/H (Asp-Glu-Ala-Asp/His) box polypeptide 1*
124106	RC_H12245	H12245		gb:ym17a12.r1 Soares infant brain 1NIB Homo sapiens cDNA clone 3', mRNA sequence
124136	RC_H22842	H22842	Hs.101770	EST
124165	RC_H30894	H30039	Hs.107674	ESTs
131229	RC_H43442_s	NM_015340	Hs.2450	leucyl-tRNA synthetase, mitochondrial
124178	RC_H45996	BE463721	Hs.97101	*putative G protein-coupled receptor*
129948	RC_H69281_i	AI537162	Hs.263988	ESTs
134374	RC_H69485_f	N22687	Hs.8236	ESTs
124254	RC_H69899	H69899		gb:yu70c12.s1 Weizmann Olfactory Epithelium Homo sapiens cDNA clone IMAGE:239158 3' similar to
129056	RC_H70627_s	AI769958	Hs.108336	ESTs, *Weakly similar to* ALUE_HUMAN !!!! ALU CLASS E WARNING ENTRY !!! [*H.sapiens*]
100919	RC_H73050_s	X54534	Hs.278994	Rhesus blood group, CcEe antigens
130724	RC_H73260	AK001507	Hs.306084	Homo sapiens clone FLB6914 PRO1821 mRNA, complete cds
100716	RC_H77531_s	X89887	Hs.172350	HIR (histone cell cycle regulation defective, S. cerevisiae) homolog A
124274	RC_H80552	H80552	Hs.102249	EST
129078	RC_H80737_s	AI351010	Hs.102267	lysosomal
124828	RC_H93412	AW952124	Hs.13094	presenilins associated rhomboid-like protein
124315	RC_H94892_s	NM_005402	Hs.288757	v-ral simian leukemia viral oncogene homolog A (ras related)
100747	RC_H95643_s	X04588	Hs.85844	neurotrophic tyrosine kinase, receptor, type 1
124324	RC_H96552	H96552	Hs.159472	Homo sapiens cDNA: FLJ22224 fis, clone HRC01703
452933	RC_H97146	AW391423	Hs.288555	Homo sapiens cDNA: FLJ22425 fis, clone HRC08686
132231	RC_H99131_s	AA662910	Hs.42635	hypothetical protein DKFZp434K2435
129170	RC_H99462_s	AW250380	Hs.109059	mitochondrial ribosomal protein L12
133143	RC_H99837_s	AA094538	Hs.272808	putative transcription regulation nuclear protein; KIAA1689 protein
132963	RC_N22140	AA099693	Hs.34851	epsilon-tubulin
135297	RC_N22197	AL118782	Hs.300208	Sec23-interacting protein p125
134347	RC_N23756_s	AF164142	Hs.82042	solute carrier family 23 (nucleobase transporters), member 1
130365	RC_N24134	W56119	Hs.155103	eukaryotic translation initiation factor 1A, Y chromosome
421642	RC_N24195	AF172066	Hs.106346	retinoic acid repressible protein
439311	RC_N26739	BE270668	Hs.151945	mitochondrial ribosomal protein L43
124383	RC_N27098	N27098	Hs.102463	EST
124387	RC_N27637	N27637	Hs.109019	ESTs
129341	RC_N33090	AI193519	Hs.226396	hypothetical protein FLJ11126
129081	RC_N35967	AI364933	Hs.168913	serine/threonine kinase 24 (Ste20, yeast homolog)
102827	RC_N38959_f	BE244588	Hs.6456	chaperonin containing TCP1, subunit 2 (beta)
124433	RC_N39069	AA280319	Hs.288840	PRO1575 protein
124441	RC_N46441	AW450481	Hs.161333	ESTs
132338	RC_N48270_f	AA353868	Hs.182982	golgin-67
131403	RC_N48365_s	AI473114	Hs.26455	ESTs
124466	RC_N51316	R10084	Hs.113319	kinesin heavy chain member 2
132210	RC_N51499_s	NM_007203	Hs.42322	A kinase (PRKA) anchor protein 2
124483	RC_N53976	AI821780	Hs.179864	ESTs
124484	RC_N54157	H66118	Hs.285520	ESTs, Weakly similar to 2109260A B cell growth factor [H.sapiens]
124485	RC_N54300	AB040933	Hs.15420	KIAA1500 protein

124494	RC_N54831	N54831	Hs.271381	ESTs, Weakly similar to I38022 hypothetical protein [H.sapiens]
129200	RC_N59849	N59849	Hs.13565	Sam68-like phosphotyrosine protein, T-STAR
124527	RC_N62132	N79264	Hs.269104	ESTs
124532	RC_N62375	N62375	Hs.102731	EST
133213	RC_N63138	AA903424	Hs.6786	ESTs
124539	RC_N63172	D54120	Hs.146409	cell division cycle 42 (GTP-binding protein, 25kD)
133651	RC_N63772	AI301740	Hs.173381	dihydropyrimidinase-like 2
129196	RC_N63787	BE296313	Hs.265592	ESTs, Weakly similar to I38022 hypothetical protein [H.sapiens]
124575	RC_N68168	N68168		gb:za11c01.s1 Soares fetal liver spleen 1NFLS Homo sapiens cDNA clone 3', mRNA sequence
124576	RC_N68201	N68201	Hs.269124	ESTs, Weakly similar to I38022 hypothetical protein [H.sapiens]
124577	RC_N68300	N68300		gb:za12g07.s1 Soares fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE:292380 3', mRNA
124578	RC_N68321	N68321	Hs.231500	EST
124593	RC_N69575	N69575	Hs.102788	ESTs
128501	RC_N75007	AL133572	Hs.199009	protein containing CXXC domain 2
105691	RC_N75542	AI680737	Hs.289068	Homo sapiens cDNA FLJ11918 fis, clone HEMBB1000272
128473	RC_N90066	T78277	Hs.100293	O-linked N-acetylglucosamine (GlcNAc) transferase (UDP-N-acetylglucosamine:polypeptide-N-
128639	RC_N91246	AW582962	Hs.102897	CGI-47 protein
124652	RC_N92751	W19407	Hs.3862	regulator of nonsense transcripts 2; DKFZP434D222 protein
133137	RC_N93214_s	AB002316	Hs.65746	KIAA0318 protein
124671	RC_N99148	AK001357	Hs.102951	Homo sapiens cDNA FLJ10495 fis, clone NT2RP2000297, moderately similar to ZINC FINGER PROTEIN
133054	RC_R07876	AA464836	Hs.291079	ESTs, Weakly similar to T27173 hypothetical protein Y54G11A.9 - Caenorhabditis elegans [C.elegans]
130410	RC_R10865_f	J00077	Hs.155421	alpha-fetoprotein
124720	RC_R11056	R05283		gb:ye91c08.s1 Soares fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE:125102 3' similar to
124722	RC_R11488	T97733	Hs.185685	ESTs
129961	RC_R22947	R23053		gb:yh31a05.r1 Soares placenta Nb2HP Homo sapiens cDNA clone 5' similar to contains L1 repetitive element
128944	RC_R23930_s	AL137586	Hs.52763	anaphase-promoting complex subunit 7
132965	RC_R26589_f	AI248173	Hs.191460	hypothetical protein MGC12936
133740	RC_R37588_s	AW162919	Hs.170160	RAB2, member RAS oncogene family-like
133074	RC_R37613	AL134275	Hs.6434	hypothetical protein DKFZp761F2014
124757	RC_R38398	H11368	Hs.141055	Homo sapiens clone 23758 mRNA sequence
124762	RC_R39179_f	AA553722	Hs.92096	ESTs, Moderately similar to A46010 X-linked retinopathy protein [H.sapiens]
124773	RC_R40923	R45154	Hs.106604	ESTs
135266	RC_R41179	R41179	Hs.97393	KIAA0328 protein
131375	RC_R41294_s	AW293165	Hs.143134	ESTs
133753	RC_R42307_f	NM_004427	Hs.165263	early development regulator 2 (homolog of polyhomeotic 2)
128540	RC_R43189_f	AW297929	Hs.328317	EST
124785	RC_R43306	W38537	Hs.280740	hypothetical protein MGC3040
124792	RC_R44357	R44357	Hs.48712	hypothetical protein FLJ20736
124793	RC_R44519	R44519		gb:yg24h04.s1 Soares infant brain 1NIB Homo sapiens cDNA clone IMAGE:33350 3', mRNA sequence.
124799	RC_R45088	R45088		gb:yg38g04.s1 Soares infant brain 1NIB Homo sapiens cDNA clone IMAGE:34896 3', mRNA sequence.
124812	RC_R47948_i	R47948	Hs.188732	ESTs
124821	RC_R51524	H87832	Hs.7388	kelch (Drosophila)-like 3
127274	RC_R54950	AW966158	Hs.58582	Homo sapiens cDNA FLJ12789 fis, clone NT2RP2001947
124835	RC_R55241	R55241	Hs.101214	EST
124845	RC_R59585	R59585	Hs.101255	ESTs
124847	RC_R60044	W07701	Hs.304177	Homo sapiens clone FLB8503 PRO2286 mRNA, complete cds
440630	RC_R60872	BE561430	Hs.239388	Human DNA sequence from clone RP1-304B14 on chromosome 6. Contains a gene for a novel protein and a part of a gene for a novel protein with two isoforms. Contains ESTs, STSs, GSSs and a CpG island
124861	RC_R66690	R67567	Hs.107110	ESTs
130141	RC_R67266_s	NM_004455	Hs.150956	exostoses (multiple)-like 1
124879	RC_R73588	R73588	Hs.101533	ESTs
124892	RC_R79403	AI970003	Hs.23756	hypothetical protein similar to swine acylneuraminate lyase
124906	RC_R87647	H75964	Hs.107815	ESTs
124922	RC_R93622	R93622	Hs.12163	eukaryotic translation initiation factor 2, subunit 2 (beta, 38kD)
124940	RC_R99599_s	AF068846	Hs.103804	heterogeneous nuclear ribonucleoprotein U (scaffold attachment factor A)
124941	RC_R99612	AI766661	Hs.27774	ESTs, Highly similar to AF161349 1 HSPC086 [H.sapiens]
124943	RC_T02888	AW963279	Hs.123373	ESTs, Weakly similar to ALU1_HUMAN ALU SUBFAMILY J SEQUENCE CONTAMINATION WARNING ENTRY [H.sapiens]
124947	RC_T03170	T03170	Hs.100165	ESTs
124954	RC_T10465	AW964237	Hs.6728	KIAA1548 protein
132924	RC_T15418_f	U55184	Hs.154145	hypothetical protein FLJ11585
133113	RC_T15597_f	BE383768	Hs.65238	95 kDa retinoblastoma protein binding protein; KIAA0661 gene product
132975	RC_T15652_i	R43504	Hs.6181	ESTs
133235	RC_T16898_s	AW960782	Hs.6856	ash2 (absent, small, or homeotic, Drosophila, homolog)-like
131082	RC_T26644_f	AI091121	Hs.246218	Homo sapiens cDNA: FLJ21781 fis, clone HEP00223
124980	RC_T40841	T40841	Hs.98681	ESTs
124984	RC_T47566_i	BE313210	Hs.223241	eukaryotic translation elongation factor 1 delta (guanine nucleotide exchange protein)
124991	RC_T50116	T50116		gb:yb77c10.s1 Stratagene ovary (937217) Homo sapiens cDNA clone IMAGE:77202 3' similar to similar to SP:VE22_LAMBD P03756 EA22 GENE , mRNA sequence.
129475	RC_T50145_s	NM_004477	Hs.203772	FSHD region gene 1

125000	RC_T58615	T58615	Hs.110640	ESTs
132932	RC_T59940_f	AW118826	Hs.6093	Homo sapiens cDNA: FLJ22783 fis, clone KAIA1993
129534	RC_T63595	AK002126	Hs.11260	hypothetical protein FLJ11264
125008	RC_T64891	T91251		gb:yd60a10.s1 Soares fetal liver spleen 1NFLS Homo sapiens cDNA clone 3', mRNA sequence
125009	RC_T64924	T64924	Hs.303046	ESTs
132940	RC_T64933_r	T79136	Hs.127243	Homo sapiens mRNA for KIAA1724 protein, partial cds
125017	RC_T68875	T68875		gb:yc30f05.s1 Stratagene liver (937224) Homo sapiens cDNA clone IMAGE:82209 3', mRNA sequence.
125018	RC_T69027	T69027	Hs.57475	sex comb on midleg homolog 1
125020	RC_T69924	T69981		gb:yc19d03.r1 Stratagene lung (937210) Homo sapiens cDNA clone 5', mRNA sequence
129891	RC_T70353	AI084813	Hs.13197	ESTs
134204	RC_T79780_s	AI873257	Hs.7994	hypothetical protein FLJ20551
125050	RC_T79951	AW970209	Hs.111805	ESTs
125052	RC_T80174_s	T85104	Hs.222779	ESTs, Moderately similar to similar to NEDD-4 [H.sapiens]
125054	RC_T80622	T80622	Hs.268601	ESTs, Weakly similar to envelope [H.sapiens]
125063	RC_T85352	T85352		gb:yd82d01.s1 Soares fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE:114721 3' similar to contains Alu repetitive element;contains L1 repetitive element ;, mRNA sequence.
125064	RC_T85373	T85373		gb:yd82f07.s1 Soares fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE:114757 3' similar to contains Alu repetitive element;contains MER3 repetitive element ;, mRNA sequence.
125066	RC_T86284	T86284		gb:yd77b07.s1 Soares fetal liver spleen 1NFLS Homo sapiens cDNA clone 3' similar to contains Alu repetitive element;, mRNA sequence
112264	RC_T89579_s	AL045364	Hs.79353	transcription factor Dp-1
125080	RC_T90360	T90360	Hs.268620	ESTs, Highly similar to ALU6_HUMAN ALU SUBFAMILY SP SEQUENCE CONTAMINATION WARNING ENTRY [H.sapiens]
125097	RC_T94328_i	AW576389	Hs.335774	EST, Moderately similar to S65657 alpha-1C-adrenergic receptor splice form 2 [H.sapiens]
125104	RC_T95590	T95590		gb:ye40a03.s1 Soares fetal liver spleen 1NFLS Homo sapiens cDNA clone 3' similar to gb|M10817|IGURRAA Iguana iguana 5S (rRNA);, mRNA sequence
135107	RC_T97257_f	T97257	Hs.337531	ESTs, Moderately similar to I38022 hypothetical protein [H.sapiens]
129550	RC_T97599_i	AA845462	Hs.124024	deltex (Drosophila) homolog 1
125118	RC_T97620	R10606		gb:yf35f11.s1 Soares fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE:128877 3' similar to contains Alu repetitive element;, mRNA sequence.
125120	RC_T97775	T97775	Hs.100717	EST
134160	RC_T98152	T98152	Hs.79432	fibrillin 2 (congenital contractural arachnodactyly)
125136	RC_W31479	AW962364	Hs.129051	ESTs
125144	RC_W37999	AB037742	Hs.24336	KIAA1321 protein
125150	RC_W38240	W38240		Empirically selected from AFFX single probeset
104180	RC_W40150	AA247778	Hs.119155	Homo sapiens mRNA full length insert cDNA clone EUROIMAGE 814975
131987	RC_W45435	AW453069	Hs.3657	activity-dependent neuroprotective protein
125178	RC_W58202	W93127	Hs.31845	ESTs
125180	RC_W58344	W58469	Hs.103120	ESTs
125182	RC_W58650	AA451755	Hs.263560	ESTs
130588	RC_W68736	AL030996	Hs.16411	hypothetical protein LOC57187
125197	RC_W69106	AF086270	Hs.278554	heterochromatin-like protein 1
133497	RC_W69111	BE617303	Hs.74266	hypothetical protein MGC4251
100562	RC_W69385_s	NM_006185	Hs.301512	nuclear mitotic apparatus protein 1
125639	RC_W69399_s	Z97630	Hs.226117	H1 histone family, member 0
129232	RC_W69459	R98881	Hs.109655	sex comb on midleg (Drosophila)-like 1
101495	RC_W72424	W72424	Hs.112405	S100 calcium-binding protein A9 (calgranulin B)
125209	RC_W72724	W72724	Hs.103174	ESTs, Weakly similar to TSP2_HUMAN THROMBOSPONDIN 2 PRECURSOR [H.sapiens]
125212	RC_W72834	AA746225	Hs.103173	ESTs
129132	RC_W73955	BE383436	Hs.108847	hypothetical protein MGC2749
125223	RC_W74701	AI916269	Hs.109057	ESTs, Weakly similar to ALU5_HUMAN ALU SUBFAMILY SC SEQUENCE CONTAMINATION WARNING ENTRY [H.sapiens]
125225	RC_W76540	W74169	Hs.16492	DKFZP564G2022 protein
125228	RC_W79397	AA033982	Hs.110059	ESTs, Weakly similar to I38022 hypothetical protein [H.sapiens]
132393	RC_W85888	AL135094	Hs.47334	hypothetical protein FLJ14495
125238	RC_W86038	N99713	Hs.109514	ESTs
125247	RC_W86881	AA694191	Hs.163914	ESTs
129296	RC_W87804	AI051967	Hs.110122	ESTs
125263	RC_W88942	AA098878		gb:zn45g10.r1 Stratagene HeLa cell s3 937216 Homo sapiens cDNA clone 5', mRNA sequence
125266	RC_W90022	W90022	Hs.186809	ESTs, Highly similar to LCT2_HUMAN LEUKOCYTE CELL-DERIVED CHEMOTAXIN 2 PRECURSOR [H.sapiens]
131321	RC_W92272	U91543	Hs.25601	chromodomain helicase DNA binding protein 3
131601	RC_W92764_s	NM_007115	Hs.29352	tumor necrosis factor, alpha-induced protein 6
131677	RC_W93040	H05317	Hs.283549	ESTs
120837	RC_W93092	BE149656	Hs.306621	Homo sapiens cDNA FLJ11963 fis, clone HEMBB1001051
125277	RC_W93227	W93227	Hs.103245	EST
125278	RC_W93523	AI218439	Hs.129998	enhancer of polycomb 1
125280	RC_W93659	AI123705	Hs.106932	ESTs
131856	RC_W94003_s	W93949	Hs.33245	ESTs
131844	RC_W94401_s	AI419294	Hs.324342	ESTs
125284	RC_W94688	NM_002666	Hs.103253	perilipin
313447	RC_W94787_s	AW016321	Hs.82306	destrin (actin depolymerizing factor)
130799	RC_Z38294_s	AB028945	Hs.12696	cortactin SH3 domain-binding protein
125289	RC_Z38311	T34530	Hs.4210	Homo sapiens cDNA FLJ13069 fis, clone NT2RP3001752
128874	RC_Z38465_s	H06245	Hs.106801	ESTs, Weakly similar to PC4259 ferritin associated protein [H.sapiens]

130966	RC_Z38525_s	AW971018	Hs.21659	ESTs
128875	RC_Z38538_f	AB040923	Hs.106808	kelch (Drosophila)-like 1
133200	RC_Z38551_s	AB037715	Hs.183639	hypothetical protein FLJ10210
130158	RC_Z38783_s	AB032947	Hs.151301	Ca2+-dependent activator protein for secretion
125295	RC_Z39113	AB022317	Hs.25887	sema domain, immunoglobulin domain (Ig), transmembrane domain (TM) and short cytoplasmic domain, (semaphorin) 4F
125298	RC_Z39255_f	AW972542	Hs.289008	Homo sapiens cDNA: FLJ21814 fis, clone HEP01068
125300	RC_Z39591	Z39591	Hs.101376	EST
323122	RC_Z39783_s	BE622770	Hs.264915	Homo sapiens cDNA FLJ12908 fis, clone NT2RP2004399
311463	RC_Z39920	R55344	Hs.22142	cytochrome b5 reductase b5R.2
130882	RC_Z40166_f	AA497044	Hs.20887	hypothetical protein FLJ10392
128888	RC_Z40388_s	AI760853	Hs.241558	ariadne (Drosophila) homolog 2
125310	RC_Z40646	R59161	Hs.124953	ESTs
125315	RC_Z41697	R38110	Hs.106296	ESTs
125317	RC_Z99349	Z99348	Hs.112461	ESTs, Weakly similar to I38022 hypothetical protein [H.sapiens]
135096	RC_Z99394_s	AA081258	Hs.132390	zinc finger protein 36 (KOX 18)
104786	RC_AA027168	AA027167	Hs.10031	KIAA0955 protein
132837	D58024_s	AA370362	Hs.57958	EGF-TM7-latrophilin-related protein
120456	RC_AA251113	AA488750	Hs.88414	BTB and CNC homology 1, basic leucine zipper transcription factor 2
132459	RC_AA347573	AL120071	Hs.48998	fibronectin leucine rich transmembrane protein 2
101545	M31210	BE246154	Hs.154210	endothelial differentiation, sphingolipid G-protein-coupled receptor, 1
133505	C01527	AI630124	Hs.324504	Homo sapiens mRNA; cDNA DKFZp586J0720 (from clone DKFZp586J0720)
132360	RC_N62948_s	AW893660	Hs.46440	solute carrier family 21 (organic anion transporter), member 3
132738	RC_W42674	AK000738	Hs.264636	hypothetical protein FLJ20731
119586	RC_W43000_s	AF088033	Hs.159225	ESTs
129914	RC_N31750_s	NM_012421	Hs.13321	rearranged L-myc fusion sequence
130839	AF009301	AB011169	Hs.20141	similar to S. cerevisiae SSM4
132813	L37347	BE313625	Hs.57435	solute carrier family 11 (proton-coupled divalent metal ion transporters), member 2
134342	M99564	NM_000275	Hs.82027	oculocutaneous albinism II (pink-eye dilution (murine) homolog)
131878	RC_AA430673	AA083764	Hs.6101	hypothetical protein MGC3178
105426	RC_AA251297	W20027	Hs.23439	ESTs
132968	RC_AA620722	AF234532	Hs.61638	myosin X
132173	RC_W46577_s	X89426	Hs.41716	endothelial cell-specific molecule 1
113932	RC_W81237	AA256444	Hs.126485	hypothetical protein FLJ12604; KIAA1692 protein
114452	RC_AA020825	AI369275	Hs.243010	Homo sapiens cDNA FLJ14445 fis, clone HEMBB1001294, highly similar to GTP-BINDING PROTEIN TC10
115243	RC_AA278766	AA806600	Hs.116665	KIAA1842 protein
134403	RC_H93708_s	AA334551	Hs.82767	sperm specific antigen 2
129647	RC_N49394	AB018259	Hs.118140	KIAA0716 gene product
111428	RC_H56559_s	AL031428	Hs.174174	KIAA0601 protein
115967	RC_AA446887	AI745379	Hs.42911	ESTs
120726	RC_AA293656	AA293655	Hs.97293	ESTs
114995	RC_AA251152	AA769266	Hs.193657	ESTs
303876	RC_AA233334_s	U64820	Hs.66521	Machado-Joseph disease (spinocerebellar ataxia 3, olivopontocerebellar ataxia 3, autosomal dominant, ataxin 3)
311463	RC_Z39920	R55344	Hs.22142	cytochrome b5 reductase b5R.2
120302	RC_AA192173	AA837098	Hs.269933	ESTs
133071	RC_AA455044	BE384932	Hs.64313	ESTs, Weakly similar to AF257182 1 G-protein-coupled receptor 48 [H.sapiens]
121032	RC_AA398504	AA393037	Hs.161798	ESTs
129829	U41813	AF010258	Hs.127428	homeo box A9
120245	RC_AA166965	AW959615	Hs.111045	ESTs
120985	RC_AA398222	AI219896	Hs.97592	ESTs
114184	RC_Z39095	R56434	Hs.21062	ESTs
447503	RC_AA284744_f	AA115496	Hs.336898	Homo sapiens, Similar to RIKEN cDNA 1810038N03 gene, clone MGC:9890, mRNA, complete cds
132837	RC_AA428201	AA370362	Hs.57958	EGF-TM7-latrophilin-related protein
121034	RC_AA398507	AL389951	Hs.271623	nucleoporin 50kD
119718	RC_W69216	W69216	Hs.92848	ESTs
120455	RC_AA251083	AA251720	Hs.104347	ESTs, Weakly similar to ALUC_HUMAN !!!! ALU CLASS C WARNING ENTRY !!! [H.sapiens]
125280	RC_W93659	AI123705	Hs.106932	ESTs
132155	RC_AA227903	AK001607	Hs.41127	hypothetical protein FLJ13220
120609	RC_AA283902	AW978721	Hs.266076	ESTs, Weakly similar to A46010 X-linked retinopathy protein [H.sapiens]
121278	RC_AA401631	AA037121	Hs.98518	Homo sapiens cDNA FLJ11490 fis, clone HEMBA1001918
109023	RC_AA157293	AA157293	Hs.72168	ESTs
129815	RC_D60208_f	BE565817	Hs.26498	hypothetical protein FLJ21657
108061	RC_AA043979	AA043979	Hs.62651	EST
113287	RC_T66847	T66847	Hs.194040	ESTs, Weakly similar to I38022 hypothetical protein [H.sapiens]
114082	RC_Z38239	AK001612	Hs.26962	Homo sapiens cDNA FLJ10750 fis, clone NT2RP3001929
116334	RC_AA491457	AL038450	Hs.48948	ESTs
131486	RC_Z40071_s	F06972	Hs.27372	BMX non-receptor tyrosine kinase
107860	RC_AA024961	AA024961	Hs.50730	ESTs
131263	RC_AA443826	AU077002	Hs.24950	regulator of G-protein signalling 5
132207	RC_AA443294	BE206939	Hs.42287	E2F transcription factor 6
129183	RC_AA155743	BE561824	Hs.273369	uncharacterized hematopoietic stem/progenitor cells protein MDS027
408431	RC_T23708	AI338631	Hs.43266	Homo sapiens cDNA: FLJ22536 fis, clone HRC13155
120575	RC_AA280934	AW978022	Hs.238911	hypothetical protein DKFZp762E1511; KIAA1816 protein

132121	RC_AA443284_s	NM_004529	Hs.404	myeloid/lymphoid or mixed-lineage leukemia (trithorax (Drosophila) homolog); translocated to, 3
117657	RC_N39074	N39074	Hs.44933	ESTs
134922	RC_W04507_s	AI718295	Hs.91161	prefoldin 4
118523	RC_R41828_s	Y07759	Hs.170157	myosin VA (heavy polypeptide 12, myoxin)
116845	RC_H64973	AA649530		gb:ns44f05.s1 NCI_CGAP_Alv1 Homo sapiens cDNA clone, mRNA sequence
115291	RC_AA279943	BE545072	Hs.122579	hypothetical protein FLJ10461
120326	RC_AA196300	AA196300	Hs.21145	hypothetical protein RG083M05.2
130174	M29550	M29551	Hs.151531	protein phosphatase 3 (formerly 2B), catalytic subunit, beta isoform (calcineurin A beta)
129131	RC_AA436489	AB026436	Hs.177534	dual specificity phosphatase 10
129868	RC_AA287032	AW172431	Hs.13012	ESTs
118661	RC_N70777	AL137554	Hs.49927	protein kinase NYD-SP15
129829	RC_AA496921	AF010258	Hs.127428	homeo box A9
115985	RC_AA447709	AA447709	Hs.268115	ESTs, Weakly similar to T08599 *probable transcription factor* CA150 [H.sapiens]
134637	RC_AA369856_s	U87309	Hs.180941	vacuolar protein sorting 41 (yeast homolog)
132714	RC_AA252598	W39388	Hs.55336	Homo sapiens, clone MGC:17421, mRNA, complete cds
129771	RC_H73237	AL096748	Hs.102708	DKFZP434A043 protein
123360	RC_AA504784	AA532718	Hs.178604	ESTs
132902	RC_AA490969	AI936442	Hs.59838	hypothetical protein FLJ10808
113716	RC_T97750	AA001356	Hs.18159	ESTs
113825	RC_W48860	AW014486	Hs.22509	ESTs
130367	RC_Z38501	AL135301	Hs.8768	hypothetical protein FLJ10849
120541	RC_AA278298	W07318	Hs.240	M-phase phosphoprotein 1
116727	RC_F13684	R76472	Hs.65646	ESTs
118219	RC_N62231	AA862391	Hs.48494	ESTs, Moderately similar to A46010 X-linked retinopathy protein [H.sapiens]
119767	RC_W72562	W72562	Hs.58119	ESTs
128917	RC_AA481252	AI365215	Hs.206097	oncogene TC21
451553	RC_AA020928	AA018454	Hs.269211	ESTs
132716	RC_AA251288	BE379595	Hs.283738	casein kinase 1, alpha 1
118525	RC_N67861	N67861	Hs.49390	ESTs
114618	RC_AA084162	AW979261	Hs.291993	ESTs
119743	RC_W70242	AA947552	Hs.58086	ESTs
108154	RC_AA425151_s	NM_005754	Hs.220689	Ras-GTPase-activating protein SH3-domain-binding protein
122798	RC_AA460324	AW366286	Hs.145696	splicing factor (CC1.3)
133746	U44378	AW410035	Hs.75862	MAD (mothers against decapentaplegic, Drosophila) homolog 4
119822	RC_W74471	AF086409	Hs.301327	ESTs
122186	RC_AA435842	AA398811	Hs.104673	ESTs
114941	RC_AA243017	AA236512	Hs.87331	ESTs
118053	RC_N53367	N53391	Hs.47629	ESTs
123234	RC_AA490227	NM_001938	Hs.16697	down-regulator of transcription 1, TBP-binding (negative cofactor 2)
129280	M63154	M63154	Hs.110014	gastric intrinsic factor (vitamin B synthesis)
118995	RC_N94591	N94591	Hs.323056	ESTs
116750	RC_H05960	AA760689	Hs.92418	ESTs
129026	M98833	AL120297	Hs.108043	Friend leukemia virus integration 1
105127	RC_AA158132	AA045648	Hs.301957	nudix (nucleoside diphosphate linked moiety X)-type motif 5
114513	RC_AA044825	AA044873	Hs.103446	ESTs
411856	RC_T35697	H67899	Hs.4190	Homo sapiens cDNA: FLJ23269 fis, clone COL09533
132036	W01568	AL157433	Hs.37706	hypothetical protein DKFZp434E2220
130091	RC_W88999	W88999		gb:zh70h03.s1 Soares_fetal_liver_spleen_1NFLS_S1 Homo sapiens cDNA clone 3', mRNA sequence
414108	U09564	AI267592	Hs.75761	SFRS protein kinase 1
119881	RC_W81456	W81486	Hs.58648	ESTs
117770	RC_N47953	AW957372	Hs.46791	ESTs, Weakly similar to I38022 hypothetical protein [H.sapiens]
119850	RC_W80447	AI247568	Hs.58452	ESTs
115439	RC_AA284561	AI567972	Hs.193090	ESTs, Highly similar to AF161437 1 HSPC319 [H.sapiens]
123107	RC_AA486071	AA225048	Hs.104207	ESTs
406698	M24364	X03068	Hs.73931	major histocompatibility complex, class II, DQ beta 1
121231	RC_AA400780	AA814948	Hs.96343	ESTs, Weakly similar to ALUC_HUMAN !!!! ALU CLASS C WARNING ENTRY !!! [H.sapiens]
132074	AB002366	AA478486	Hs.3852	KIAA0368 protein
413670	AB000115	AB000115	Hs.75470	hypothetical protein, expressed in osteoblast
125277	RC_W93227	W93227	Hs.103245	EST
114056	RC_AA186324	AA188175	Hs.82506	KIAA1254 protein
121153	RC_AA399640	AA399640	Hs.97694	ESTs
121609	RC_AA416867	AA416867	Hs.98185	EST
120661	RC_AA287556	AA287556	Hs.263412	ESTs, Weakly similar to ALUB_HUMAN !!!! ALU CLASS B WARNING ENTRY !!! [H.sapiens]
120850	RC_AA349647	AA349647	Hs.96927	Homo sapiens cDNA FLJ12573 fis, clone NT2RM4000979
124947	RC_T03170	T03170	Hs.100165	ESTs
130529	RC_AA280886	AA178953		gb:zp39e03.s1 Stratagene muscle 937209 Homo sapiens cDNA clone 3' similar to contains Alu repetitive element;, mRNA sequence
117683	RC_N40180	N40180		gb:yy44d02.s1 Soares_multiple_sclerosis_2NbHMSP Homo sapiens cDNA clone IMAGE:276387 3' similar to contains L1.t1 L1 repetitive element ;, mRNA sequence.
120745	RC_AA302809	AA302809		gb:EST10426 Adipose tissue, white I Homo sapiens cDNA 3' end, mRNA sequence.
120936	RC_AA385934	AA385934	Hs.97184	EST, *Highly similar to (defline not available 7499603)* [C.elegans]
112597	RC_R78376	R78376	Hs.29733	EST
120183	RC_Z40174	AW082866	Hs.65882	ESTs
120644	RC_AA287038	AI869129	Hs.96616	ESTs

119023	RC_N98488	N98488		gb:zb82h01.s1 Soares_senescent_fibroblasts_NbHSF Homo sapiens cDNA clone IMAGE:310129 3', mRNA sequence.
107582	RC_AA002147	AA002147	Hs.59952	EST
118249	RC_N62580	N62580	Hs.322925	EST, Weakly similar to putative p150 [H.sapiens]
115022	RC_AA252029	AA252029	Hs.87935	ESTs
117710	RC_N45198	N45198	Hs.47248	ESTs, Highly similar to similar to Cdc14B1 phosphatase [H.sapiens]
115341	RC_AA281452	AA281452	Hs.88840	EST, Weakly similar to granule cell marker protein [M.musculus]
118896	RC_N90680	N46213	Hs.54642	methionine adenosyltransferase II, beta
121121	RC_AA399371	AA399371	Hs.189095	similar to SALL1 (sal (Drosophila)-like
118329	RC_N63520	N63520		gb:yy62f01.s1 Soares_multiple_sclerosis_2NbHMSP Homo sapiens cDNA clone IMAGE:278137 3', mRNA sequence.
119496	RC_W35416	W35416	Hs.156861	ESTs, Moderately similar to A46010 X-linked retinopathy protein [H.sapiens]
118111	RC_N55493	N55493		gb:yv50c02.s1 Soares fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE:246146 3', mRNA sequence.
119062	RC_R16698	AW444881	Hs.77829	ESTs
116710	RC_F10577_f	F10577	Hs.306088	v-crk avian sarcoma virus CT10 oncogene homolog
119261	RC_T15956	T15956	Hs.65289	EST
122723	RC_AA457380	AA457380		gb:aa86b10.s1 Stratagene fetal retina 937202 Homo sapiens cDNA clone IMAGE:838171 3' similar to contains L1.b3 L1 repetitive element ;, mRNA sequence.
117732	RC_N46452	N46452		gb:yy76h09.s1 Soares_multiple_sclerosis_2NbHMSP Homo sapiens cDNA clone IMAGE:279521 3' similar to contains L1.t2 L1 repetitive element ;, mRNA sequence.
104787	RC_AA027317	AA027317		gb:ze97d11.s1 Soares_fetal_heart_NbHH19W Homo sapiens cDNA clone IMAGE:366933 3' similar to contains Alu repetitive element;, mRNA sequence.
100071	A28102	A28102		Human GABAa receptor alpha-3 subunit
115819	RC_AA426573	AA486620	Hs.41135	endomucin-2
130882	RC_Z40166_f	AA497044	Hs.20887	hypothetical protein FLJ10392
125225	RC_W76540	W74169	Hs.16492	DKFZP564G2022 protein
108339	RC_AA070801	AW151340	Hs.51615	ESTs, Weakly similar to ALU7_HUMAN ALU SUBFAMILY SQ SEQUENCE CONTAMINATION WARNING ENTRY [H.sapiens]
100338	D63483	D86864	Hs.57735	acetyl LDL receptor; SREC
121636	RC_AA417027	AA379203	Hs.306654	Homo sapiens cDNA FLJ13574 fis, clone PLACE1008625
103875	RC_AA418387	T26379	Hs.48802	Homo sapiens clone 23632 mRNA sequence
118716	RC_N73460	AI658908	Hs.118722	fucosyltransferase 8 (alpha (1,6) fucosyltransferase)
119763	RC_W72450	R54146	Hs.10450	Homo sapiens cDNA: FLJ22063 fis, clone HEP10326
121917	RC_AA428218	AA406397	Hs.98038	ESTs
132806	M91488	AI699432	Hs.278619	hypothetical protein FLJ10099
130949	Y10659	AV656840	Hs.285115	interleukin 13 receptor, alpha 1
108806	RC_AA129933	AF070578	Hs.71168	Homo sapiens clone 24674 mRNA sequence
133276	RC_AA490478	AW978439	Hs.69504	ESTs
134760	RC_H16758	NM_000121	Hs.89548	erythropoietin receptor
132867	AA121287	AF226667	Hs.58553	CTP synthase II
132051	AA091284	AA393968	Hs.180145	HSPC030 protein
114208	RC_Z39301	AL049466	Hs.7859	ESTs
104094	AA418187	AA418187	Hs.330515	ESTs
128718	AA426361	NM_002959	Hs.281706	sortilin 1
302032	RC_N20407	NM_001992	Hs.128087	coagulation factor II (thrombin) receptor
115501	RC_AA291553	AA291553	Hs.190086	ESTs
101997	U01160	AU076536	Hs.50984	sarcoma amplified sequence
103708	AA037206	AA430591	Hs.72071	hypothetical protein FLJ20038
101899	S59184	S59184	Hs.79350	RYK receptor-like tyrosine kinase
115839	RC_AA429038	BE300266	Hs.28935	transducin-like enhancer of split 1, homolog of Drosophila E(sp1)
409459	D50678	D86407	Hs.54481	low density lipoprotein receptor-related protein 8, apolipoprotein e receptor
103563	Z22534	L02911	Hs.150402	Activin A receptor, type I (ACVR1) (ALK-2)
123233	RC_AA490225	AW974175	Hs.188751	ESTs, Weakly similar to MAPB_HUMAN MICROTUBULE-ASSOCIATED PROTEIN 1B [H.sapiens]
121305	RC_AA402468	AA402468	Hs.291557	ESTs
114798	RC_AA159181	AA159181	Hs.54900	serologically defined colon cancer antigen 1
133145	RC_AA196549	H94227	Hs.6592	Homo sapiens, clone IMAGE:2961368, mRNA, partial cds
131567	RC_AA291015_s	AF015592	Hs.28853	CDC7 (cell division cycle 7, S. cerevisiae, homolog)-like 1
112300	RC_R54554	H24334	Hs.26125	ESTs
129507	RC_AA192099	AJ236885	Hs.112180	zinc finger protein 148 (pHZ-52)
121033	RC_AA398505	AA398505	Hs.97360	ESTs
121151	RC_AA399636	AA399636	Hs.143629	ESTs
121402	RC_AA406063	AA406063	Hs.98003	ESTs
123203	RC_AA489671	AA352335	Hs.65641	hypothetical protein FLJ20073
132271	RC_AA236466	AB030034	Hs.115175	sterile-alpha motif and leucine zipper containing kinase AZK
125197	RC_W69106	AF086270	Hs.278554	heterochromatin-like protein 1
114935	RC_AA242809	H23329	Hs.290880	ESTs, Weakly similar to ALU1_HUMAN ALU SUBFAMILY J SEQUENCE CONTAMINATION WARNING ENTRY [H.sapiens]
125279	RC_W93640	AW401809	Hs.4779	KIAA1150 protein
108778	RC_AA128548	AF133123	Hs.90847	general transcription factor IIIC, polypeptide 3 (102kD)
108087	RC_AA045709	AA045708	Hs.40545	ESTs
132466	RC_N66810_s	AI597655	Hs.49265	ESTs
133328	R36553	AW452738	Hs.265327	hypothetical protein DKFZp761I141
124057	RC_F13604	AA902384	Hs.73853	bone morphogenetic protein 2
124800	RC_R45115	AW864086	Hs.138617	thyroid hormone receptor interactor 12

121029	RC_AA398482	AA398482	Hs.97641	EST
120663	RC_AA287627	AA827798	Hs.105089	ESTs
102133	U15173	AU076845	Hs.155596	BCL2/adenovirus E1B 19kD-interacting protein 2
108246	RC_AA062855	AI423132	Hs.146343	ESTs
125226	RC_W78134	AA782536	Hs.122647	N-myristoyltransferase 2
120260	RC_AA171739	AK000061	Hs.101590	hypothetical protein
124906	RC_R87647	H75964	Hs.107815	ESTs
109406	RC_AA226877	AA199883	Hs.67624	ESTs
109271	RC_AA195668	AW137422	Hs.86022	ESTs
125052	RC_T80174_s	T85104	Hs.222779	ESTs, Moderately similar to similar to NEDD-4 [H.sapiens]
109101	RC_AA167708	AW608930	Hs.52184	hypothetical protein FLJ20618
115241	RC_AA278723	AA648278	Hs.193859	ESTs
117163	RC_H97909	N36861	Hs.42344	ESTs
113530	RC_T90313	T90313	Hs.16732	ESTs
120375	RC_AA227260	AF028706	Hs.111227	Zic family member 3 (odd-paired Drosophila homolog, heterotaxy 1)
129435	AA314256	AF151852	Hs.111449	CGI-94 protein
114864	RC_AA235256	AA135332	Hs.71608	ESTs
103988	AA314389	AA314389	Hs.42500	ADP-ribosylation factor-like 5
131006	RC_AA242763	AF064104	Hs.22116	CDC14 (cell division cycle 14, S. cerevisiae) homolog B
106781	RC_AA478474	AA330310	Hs.24181	ESTs
106141	RC_AA424558	AF031463	Hs.9302	phosducin-like
116213	RC_AA476738	AA292105	Hs.326740	hypothetical protein MGC10947
135266	AB002326	R41179	Hs.97393	KIAA0328 protein
135058	RC_AA430152	AI379720	Hs.93814	hypothetical protein
119908	RC_W85844	AA524470	Hs.58753	ESTs
103695	AA018758	AW207152	Hs.186600	ESTs
103978	AA307443	NM_016940	Hs.34136	chromosome 21 open reading frame 6
109485	RC_AA233472	BE619092	Hs.28465	Homo sapiens cDNA: FLJ21869 fis, clone HEP02442
129574	AA458603	AA026815	Hs.11463	UMP-CMP kinase
115347	RC_AA281528	AA356792	Hs.334824	hypothetical protein FLJ14825
120765	RC_AA338735	AW961026	Hs.96752	ESTs, Weakly similar to ALU8_HUMAN ALU SUBFAMILY SX SEQUENCE CONTAMINATION WARNING ENTRY [H.sapiens]
121059	RC_AA398628	AA393283		gb:zt74e03.r1 Soares_testis_NHT Homo sapiens cDNA clone 5', mRNA sequence
131887	AA046548	W17064	Hs.332848	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily e, member 1
112064	RC_R43812	AL049390	Hs.22689	Homo sapiens mRNA; cDNA DKFZp586O1318 (from clone DKFZp586O1318)
115606	RC_AA400465	AI025829	Hs.86320	ESTs
131750	RC_H94855_s	NM_004349	Hs.31551	core-binding factor, runt domain, alpha subunit 2; translocated to, 1; cyclin D-related
102123	U14518	NM_001809	Hs.1594	centromere protein A (17kD)
129847	RC_W46767	N64025	Hs.296178	hypothetical protein FLJ22637
133809	RC_AA235275	AV649326	Hs.76359	catalase
132210	RC_N51499_s	NM_007203	Hs.42322	A kinase (PRKA) anchor protein 2
122356	RC_AA443794	AA443794	Hs.98390	ESTs
114958	RC_AA243708	N20912	Hs.42369	ESTs
103951	AA287840	AL353944	Hs.50115	Homo sapiens mRNA; cDNA DKFZp761J1112 (from clone DKFZp761J1112)
134703	RC_AA280704	AF117065	Hs.88764	male-specific lethal-3 (Drosophila)-like 1
128727	AA287864	AI223335	Hs.50651	Janus kinase 1 (a protein tyrosine kinase)
105743	RC_AA293300_s	BE246502	Hs.9598	sema domain, immunoglobulin domain (Ig), transmembrane domain (TM) and short cytoplasmic domain, (semaphorin) 4B
103744	AA076003	AA079267		gb:zm97e10.s1 Stratagene colon HT29 (937221) Homo sapiens cDNA clone 3', mRNA sequence
114348	N80402	AL050321	Hs.301532	CRP2 binding protein
114009	RC_W90067	AI248544	Hs.103000	KIAA0831 protein
134704	RC_AA280849	AA837124	Hs.88780	ESTs
128629	AA399187	AL096748	Hs.102708	DKFZP434A043 protein
104410	H65925	AI807519	Hs.104520	Homo sapiens cDNA FLJ13694 fis, clone PLACE2000115
110200	RC_H21075	H21075	Hs.31802	ESTs, Highly similar to A59266 unconventional myosin-15 [H.sapiens]
124483	RC_N53976	AI821780	Hs.179864	ESTs
101391	M14648	NM_002210	Hs.295726	integrin, alpha V (vitronectin receptor, alpha polypeptide, antigen CD51)
109657	RC_F04826	R60900	Hs.26814	ESTs
117140	RC_H96813	H96813	Hs.42241	ESTs
132937	RC_AA233706_f	AW952912	Hs.300383	hypothetical protein MGC3032
129799	R36410	AW967473	Hs.239114	mannosidase, alpha, class 1A, member 2
105077	RC_AA142919	W55946	Hs.234863	Homo sapiens cDNA FLJ12082 fis, clone HEMBB1002492
100850	RC_N58561_s	AA836472	Hs.297939	cathepsin B
131043	RC_AA490925	AF084535	Hs.22464	epilepsy, progressive myoclonus type 2, Lafora disease (laforin)
118417	RC_N66048_f	AF080229		gb:Human endogenous retrovirus K clone 10.1 polymerase mRNA, partial cds
129254	RC_AA243695	AA252468	Hs.1098	DKFZp434J1813 protein
119149	RC_R58910	BE304701	Hs.65732	ESTs
133996	AA091367	AA380267	Hs.78277	DKFZP434F2021 protein
110223	RC_H23747	H19836	Hs.31697	ESTs
117626	RC_N36090	AK001757	Hs.281348	hypothetical protein FLJ10895
135286	RC_AA424469_s	AW023482	Hs.97849	ESTs
122967	RC_AA478521	AA806187	Hs.289101	glucose regulated protein, 58kD
131236	AA282640	AF043117	Hs.24594	ubiquitination factor E4B (homologous to yeast UFD2)
128568	AA463380	H12912	Hs.274691	adenylate kinase 3

112888	RC_T03872	AW195317	Hs.107716	hypothetical protein FLJ22344
115192	RC_AA261920	AA741024	Hs.88378	ESTs
118688	RC_N71484	AK000708	Hs.169764	hypothetical protein FLJ20701
122264	RC_AA436837	AA436837		gb:zv57g07.s1 Soares_testis_NHT Homo sapiens cDNA clone 3', mRNA sequence
128981	AA135452	AA927177	Hs.86041	CGG triplet repeat binding protein 1
131042	RC_R42457	AI826288	Hs.171637	hypothetical protein MGC2628
103704	AA028171	AA028171	Hs.151258	hypothetical protein FLJ21062
121341	AA233107	AF035528	Hs.153863	MAD (mothers against decapentaplegic, Drosophila) homolog 6
106593	RC_AA456826	AW296451	Hs.24605	ESTs
115195	RC_AA262156	AW968619	Hs.155849	ESTs
115425	RC_AA284071	AA811895	Hs.180680	ESTs, Weakly similar to I54374 gene NF2 protein [H.sapiens]
117258	RC_N21299	AF086041	Hs.42975	ESTs
120209	RC_Z40892	F02951		gb:HSC1HB082 normalized infant brain cDNA Homo sapiens cDNA clone c-1hb08 3', mRNA sequence
134082	L16991	L16991	Hs.79006	deoxythymidylate kinase (thymidylate kinase)
104774	RC_AA026066	AW959755	Hs.288896	Homo sapiens cDNA FLJ12977 fis, clone NT2RP2006261
115625	RC_AA401630	AA059459	Hs.62592	ESTs
104469	N28707	N28707	Hs.154304	Homo sapiens chromosome 19, BAC 282485 (CIT-B-344H19)
107401	W20054	N91453	Hs.102987	ESTs
111686	RC_R21510	R22039	Hs.23217	ESTs
115300	RC_AA280026	AA280095	Hs.88689	ESTs
115378	RC_AA282292	AA282292	Hs.279841	hypothetical protein FLJ10335
132224	RC_H97819	N41549	Hs.285410	ESTs
113791	M95767	AI269096	Hs.135578	chitobiase, di-N-acetyl-
129144	AA004987	AL137275	Hs.20137	hypothetical protein DKFZp434P0116
104448	L44574	NM_007331	Hs.110457	Wolf-Hirschhorn syndrome candidate 1
132084	RC_T26981_s	NM_002267	Hs.3886	karyopherin alpha 3 (importin alpha 4)
111831	RC_R36083	R36095	Hs.268695	ESTs
114765	RC_AA252163	AA463550	Hs.337532	ESTs, Weakly similar to A47582 B-cell growth factor precursor [H.sapiens]
115029	RC_AA252219	AL137939	Hs.40096	ESTs
100457	H81492	BE246400	Hs.285176	acetyl-Coenzyme A transporter
104536	R24011	R24024	Hs.158101	Homo sapiens cDNA FLJ14673 fis, clone NT2RP2003714, moderately similar to ZINC FINGER PROTEIN 91
116167	RC_AA461562	AI091731	Hs.87293	hypothetical protein FLJ20045
103889	AA236771	R85350	Hs.101368	ESTs
131978	RC_H48459_s	AA355925	Hs.36232	KIAA0186 gene product
118843	RC_N80181	N80181	Hs.221498	ESTs
120837	RC_W93092	BE149656	Hs.306621	Homo sapiens cDNA FLJ11963 fis, clone HEMBB1001051
133647	D21852	NM_015361	Hs.268053	KIAA0029 protein
129521	U41815	AF071076	Hs.112255	nucleoporin 98kD
103746	AA081876	AA075000		gb:zm83c07.s1 Stratagene ovarian cancer (937219) Homo sapiens cDNA clone 3', mRNA sequence
132019	RC_AA134965_i	H56995	Hs.37372	Homo sapiens DNA binding peptide mRNA, partial cds
132310	RC_AA284107	AA173223	Hs.289044	Homo sapiens cDNA FLJ12048 fis, clone HEMBB1001990
117367	RC_N24954	AI041793	Hs.42502	ESTs
103743	AA075998	AA075998		gb:zm89b09.r1 Stratagene ovarian cancer (937219) Homo sapiens cDNA clone 5' similar to gb:M15887 ACYL-COA-BINDING PROTEIN (HUMAN);, mRNA sequence
103761	AA085138	AA765163		gb:nz79b10.s1 NCI_CGAP_GCB1 Homo sapiens cDNA clone 3' similar to gb:M34539 FK506-BINDING PROTEIN (HUMAN);, mRNA sequence
130237	L39060	AA913909	Hs.153088	TATA box binding protein (TBP)-associated factor, RNA polymerase I, A, 48kD
128752	RC_N72879	AA504428	Hs.10487	Homo sapiens, clone IMAGE:3954132, mRNA, partial cds
135162	AA045930	AI187925	Hs.95667	F-box protein 30
131386	AA096412	BE219898	Hs.173135	dual-specificity tyrosine-(Y)-phosphorylation regulated kinase 2
129021	RC_AA599244	AL044675	Hs.173081	KIAA0530 protein
424274	AA293634	W73933	Hs.283738	casein kinase 1, alpha 1
129913	H06583	NM_001310	Hs.13313	cAMP responsive element binding protein-like 2
131888	U79298	AW294659	Hs.34054	Homo sapiens cDNA: FLJ22488 fis, clone HRC10948, highly similar to HSU79298 Human clone 23803 mRNA
118612	RC_N69466	AB037788	Hs.224961	cleavage and polyadenylation specific factor 2, 100kD subunit
322026	AA203138	AW024973	Hs.283675	NPD009 protein
110892	RC_N38882	AL035301	Hs.97375	H.sapiens gene from PAC 106H8
111429	RC_R01245	AI038052	Hs.19162	ESTs, Weakly similar to I54374 gene NF2 protein [H.sapiens]
113334	RC_T76962	AW974666	Hs.293024	ESTs
104091	AA417310	BE465093	Hs.106101	hypothetical protein FLJ22557
105246	RC_AA226879	AA226879		gb:zr19c09.s1 Stratagene NT2 neuronal precursor 937230 Homo sapiens cDNA clone IMAGE:663856 3' similar to contains Alu repetitive element;, mRNA sequence.
113300	RC_T67448	T67448	Hs.13101	ESTs
117147	RC_H97225_s	AW901347	Hs.38592	hypothetical protein FLJ23342
121349	RC_AA405205	AA405205	Hs.97960	ESTs, Weakly similar to T51146 ring-box protein 1 [H.sapiens]
100294	D49396	AA331881	Hs.75454	peroxiredoxin 3
133999	M28213	AA535244	Hs.78305	RAB2, member RAS oncogene family
133259	AA278548	BE379646	Hs.6904	Homo sapiens mRNA full length insert cDNA clone EUROIMAGE 2004403
129423	AA371418	AA204686	Hs.234149	hypothetical protein FLJ20647
131098	RC_AA459668	U66669	Hs.236642	3-hydroxyisobutyryl-Coenzyme A hydrolase
135272	AA399391	AI828337	Hs.97591	ESTs
129155	AA046865	AI952677	Hs.108972	Homo sapiens mRNA; cDNA DKFZp434P228 (from clone DKFZp434P228)

311291	AA056319	AA782601	Hs.319817	ESTs
120750	RC_AA310499	AI191410	Hs.96693	ESTs, Moderately similar to 2109260A B cell growth factor [H.sapiens]
101002	J04058	AV655843	Hs.169919	electron-transfer-flavoprotein, alpha polypeptide (glutaric aciduria II)
133012	AA099241	AA847843	Hs.62711	Homo sapiens, clone IMAGE:3351295, mRNA
103879	AA228148_s	BE543269	Hs.50252	mitochondrial ribosomal protein L32
131281	RC_AA443212	AA251716	Hs.25227	ESTs
115109	RC_AA256383	AJ249977	Hs.88049	protein kinase, AMP-activated, gamma 3 non-catalytic subunit
118502	RC_N67317	AL157488	Hs.50150	Homo sapiens mRNA; cDNA DKFZp564B182 (from clone DKFZp564B182)
134100	L07540	AA460085	Hs.171075	replication factor C (activator 1) 5 (36.5kD)
131869	AA484944	AW968547	Hs.33540	ESTs, Weakly similar to dJ309K20.4 [H.sapiens]
115396	RC_AA282985	AA810854	Hs.89081	ESTs
103860	AA203742	AW976877	Hs.38057	ESTs
135089	N75611_s	AI918035	Hs.301198	roundabout (axon guidance receptor, Drosophila) homolog 1
129938	U79300	AW003668	Hs.135587	Human clone 23629 mRNA sequence
107508	W90095	N74925	Hs.38761	Homo sapiens cDNA: FLJ21564 fis, clone COL06452
103685	AA005190	AA158008	Hs.292444	ESTs
125170	AA203147	AL020996	Hs.8518	selenoprotein N
129179	RC_AA504125_s	AW969025	Hs.109154	ESTs
116262	AA477046	AI936442	Hs.59838	hypothetical protein FLJ10808
123009	RC_AA479949	AA535244	Hs.78305	RAB2, member RAS oncogene family
131004	D29833	D29833	Hs.2207	salivary proline-rich protein
103317	X83441	X83441	Hs.166091	ligase IV, DNA, ATP-dependent
132814	RC_C15251_f	D60730	Hs.57471	ESTs
103992	U77718	BE018142	Hs.300954	Huntingtin interacting protein K
109258	X59710	AL044818	Hs.84928	nuclear transcription factor Y, beta
110754	RC_N20814	AW302200	Hs.6336	KIAA0672 gene product
132727	AA136382_s	N27495	Hs.5565	hypothetical protein FLJ22626
100341	D63506	AF032922	Hs.8813	syntaxin binding protein 3
134664	AA256106	AA256106	Hs.87507	ESTs
103826	AA165564	AW162998	Hs.24684	KIAA1376 protein
111678	RC_R20628	R38487	Hs.169927	ESTs
101341	L76159	NM_004477	Hs.203772	FSHD region gene 1
115455	RC_AA285068	AA876002	Hs.120551	toll-like receptor 10
111192	RC_AA477748	AW021968	Hs.109438	Homo sapiens clone 24775 mRNA sequence
129385	RC_AA235604	AA172106	Hs.110950	Rag C protein
125050	RC_T79951	AW970209	Hs.111805	ESTs
122105	RC_AA432278	AW241685	Hs.98699	ESTs
121324	RC_AA404229	AA404229	Hs.97842	EST
120938	RC_AA386260	AA386260	Hs.104632	EST
115001	RC_AA251376	AA251376		gb:zs10a06.s1 NCI_CGAP_GCB1 Homo sapiens cDNA clone IMAGE:684754 3', mRNA sequence.
124799	RC_R45088	R45088		gb:yg38g04.s1 Soares infant brain 1NIB Homo sapiens cDNA clone IMAGE:34896 3', mRNA sequence.
122724	RC_AA457395	AA457395	Hs.99457	ESTs
117791	RC_N48325	N48325	Hs.93956	EST
121895	RC_AA427396	AA427396		gb:zw33a02.s1 Soares ovary tumor NbHOT Homo sapiens cDNA clone IMAGE:771050 3' similar to contains Alu repetitive element;contains MER12.t2 MER12 repetitive element ;, mRNA sequence.
108244	RC_AA062839	AA062839		gb:zm05c09.s1 Stratagene corneal stroma (937222) Homo sapiens cDNA clone IMAGE:513232 3', mRNA sequence.
117852	RC_N49408	AW877787	Hs.136102	KIAA0853 protein
109298	RC_AA205432	R77854	Hs.250693	Krueppel-related zinc finger protein
122432	RC_AA447400	AA447400	Hs.187684	ESTs, Weakly similar to B34087 hypothetical protein [H.sapiens]
124627	RC_N74625	N74625		gb:za55c03.s1 Soares fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE:296452 3' similar to gb:M14338 VITAMIN K-DEPENDENT PROTEIN S PRECURSOR (HUMAN);contains OFR.b3 OFR repetitive element ;, mRNA sequence.
115141	RC_AA258071	AA465131	Hs.64001	Homo sapiens clone 25218 mRNA sequence
128636	U49065	U49065	Hs.102865	interleukin 1 receptor-like 2
115373	RC_AA282197	AA664862	Hs.181022	CGI-07 protein
114651	RC_AA101400	AA101400	Hs.189960	ESTs
132796	RC_AA180487	NM_006283	Hs.173159	transforming, acidic coiled-coil containing protein 1
103749	RC_N35583	AL135301	Hs.8768	hypothetical protein FLJ10849
107328	T83444	AW959891	Hs.76591	KIAA0887 protein
115349	RC_AA281563	AF121176	Hs.12797	DEAD/H (Asp-Glu-Ala-Asp/His) box polypeptide 16
111490	RC_R06862	R06862		gb:yf11e09.s1 Soares fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE:126568 3' similar to contains L1 repetitive element ;, mRNA sequence.
103763	AA085354	AA085291		gb:zn01g06.s1 Stratagene colon HT29 (937221) Homo sapiens cDNA clone 3' similar to contains Alu repetitive element;, mRNA sequence
118791	RC_N75520	N75520	Hs.261003	ESTs, Moderately similar to B34087 hypothetical protein [H.sapiens]
116644	RC_F03032	F03032	Hs.290278	ESTs, Weakly similar to B34087 hypothetical protein [H.sapiens]
116823	RC_H56485	AW204742	Hs.143542	ESTs, Highly similar to CSA_HUMAN COCKAYNE SYNDROME WD-REPEAT PROTEIN CSA [H.sapiens]
108940	RC_AA148603	AA148603		gb:zo09e04.s1 Stratagene neuroepithelium NT2RAMI 937234 Homo sapiens cDNA clone IMAGE:567198 3', mRNA sequence.
112218	RC_R50057	R50057	Hs.272251	Homo sapiens mRNA; cDNA DKFZp586M1418 (from clone DKFZp586M1418)
116557	RC_D20572_i	D20572	Hs.90171	EST
133649	U25849	U25849	Hs.75393	acid phosphatase 1, soluble
131745	RC_C20746	AI828559	Hs.31447	ESTs, Moderately similar to A46010 X-linked retinopathy protein [H.sapiens]

116801	RC_H43879	H43879		gb:yo69h09.s1 Soares breast 3NbHBst Homo sapiens cDNA clone IMAGE:183233 3', mRNA sequence.
115006	RC_AA251548	AA251548	Hs.87886	EST
123424	RC_AA598500	H29882	Hs.162614	ESTs
120831	RC_AA347919	AA347919	Hs.96889	EST
103691	AA018298	AA018298	Hs.103332	ESTs
121555	RC_AA412491	AF025771	Hs.50123	zinc finger protein 189
111193	RC_N67946	N67946	Hs.117569	ESTs
132061	RC_AA058946	AB020700	Hs.3830	KIAA0893 protein
134575	RC_AA194568_i	AA194568	Hs.85938	EST
115050	RC_AA252794	AA252794	Hs.88009	ESTs
420208	U31799	BE276055	Hs.95972	silver (mouse homolog) like
133735	AC002045_xpt1	R66740	Hs.110613	KIAA0220 protein
128546	Z21305	NM_003478	Hs.101299	cullin 5
111946	RC_R40697	R40697	Hs.76666	C9orf10 protein
124879	RC_R73588	R73588	Hs.101533	ESTs
115683	AA410345	AF255910	Hs.54650	junctional adhesion molecule 2
103692	AA018418	AW137912	Hs.227583	Homo sapiens chromosome X map Xp11.23 L-type calcium channel alpha-1 subunit (CACNA1F) gene, complete cds; HSP27 pseudogene, complete sequence; and JM1 protein, JM2 protein, and Hb2E genes, complete cds
103767	AA089688	BE244667	Hs.296155	CGI-100 protein
125266	W90022	W90022	Hs.186809	ESTs, Highly similar to LCT2_HUMAN LEUKOCYTE CELL-DERIVED CHEMOTAXIN 2 PRECURSOR [H.sapiens]
135235	AA435512	AW298244	Hs.293507	ESTs
134497	RC_AA404494	BE258532	Hs.251871	CTP synthase
426754	RC_AA278529_i	NM_014264	Hs.172052	serine/threonine kinase 18
412177	RC_AA342828_s	Z23091	Hs.73734	glycoprotein V (platelet)
132000	RC_AA044644	AW247017	Hs.36978	melanoma antigen, family A, 3
124738	RC_AA044644	T07568	Hs.137158	ESTs
324000	RC_AA196729_i	AA604749	Hs.190213	ESTs
106896	RC_AA196729_i	AW073202	Hs.334825	Homo sapiens cDNA FLJ14752 fis, clone NT2RP3003071
132000	RC_AA025858	AW247017	Hs.36978	melanoma antigen, family A, 3
129577	RC_AA025858	N75346	Hs.82906	CDC20 (cell division cycle 20, S. cerevisiae, homolog)
107091	RC_AA233519	AI949109	Hs.246885	hypothetical protein FLJ20783
130296	RC_N52271	D31139	Hs.154103	LIM protein (similar to rat protein kinase C-binding enigma)
102855	RC_N68399	NM_003528	Hs.2178	H2B histone family, member Q
113689	RC_AA098874	AB037850	Hs.16621	DKFZP434I116 protein
100939	RC_AA279667_s	L04288	Hs.297939	cathepsin B
130430	RC_H22556	W27893	Hs.150580	putative translation initiation factor
106734	RC_N45979_s	BE296690	Hs.288173	Homo sapiens cDNA: FLJ21747 fis, clone COLF5160, highly similar to AF182198 Homo sapiens intersectin 2 long isoform (ITSN2) mRNA
135148	RC_AA431288_s	AA306478	Hs.95327	CD3D antigen, delta polypeptide (TiT3 complex)
134221	RC_AA609862	BE280456	Hs.80248	RNA-binding protein gene with multiple splicing
105376	RC_N35583	AW994032	Hs.8768	hypothetical protein FLJ10849
124541	U77718	AF112222	Hs.44499	pinin, desmosome associated protein
134546	AA203147	AL020996	Hs.8518	selenoprotein N
134000	RC_W93092	AW175787	Hs.334841	selenium binding protein 1
125656	RC_W93092	AW516428	Hs.78687	neutral sphingomyelinase (N-SMase) activation associated factor
100939	RC_N58561_s	L04288	Hs.297939	cathepsin B
125656	RC_W93092	AW516428	Hs.78687	neutral sphingomyelinase (N-SMase) activation associated factor
101779	RC_W69385_s	BE543412	Hs.250505	retinoic acid receptor, alpha
332489	RC_R22947	R23053	NA	Hu01 Chip Redos
133000	RC_N38959_f	AL042444	Hs.62402	p21/Cdc42/Rac1-activated kinase 1 (yeast Ste20-related)
125905	RC_N38959_f	AI678638	Hs.6456	chaperonin containing TCP1, subunit 2 (beta)
129000	RC_H73050_s	AA744902	Hs.107767	hypothetical protein PRO1489
100920	RC_H73050_s	X54534	Hs.278994	Rhesus blood group, CcEe antigens

TABLE 1A

Table 1A shows the accession numbers for those pkeys lacking unigeneID's for Tables 1. The pkeys in Table 7 lacking unigeneID's are represented within Tables 1-6A. For each probeset we have listed the gene cluster number from which the oligonucleotides were designed. Gene clusters were compiled using sequences derived from Genbank ESTs and mRNAs. These sequences were clustered based on sequence similarity using Clustering and Alignment Tools (DoubleTwist, Oakland California). The Genbank accession numbers for sequences comprising each cluster are listed in the "Accession" column.

Pkey:	Unique Eos probeset identifier number
CAT number:	Gene cluster number
Accession:	Genbank accession numbers

Pkey	CAT Number	Accession
108469	116761_1	AA079487 AA128547 AA128291 AA079587 AA079600
124106	125446_1	H12245 AA094769 R14576
108501	13684_-12	AA083256
108562	36375_1	AA100796 AF020589 AA074629 AA075946 AA100849 AA085347 AA126309 AA079311 AA079323 AA085274
125008	1802095_1	T91251 T64891 T85665
125020	116017_1	T69981 T69924 AA078476
125066	1814993_1	T86284 T81933
116661	1532859_1	R61504 F04247
125104	413347_1	T95590 AA703278 H62764
124575	1666649_1	N68168 N69188 N90450
125263	1547_2	AA098878 W88942
116845	393481_1	AA649530 AA659316 H64973
118417	37186_1	AF080229 AF080231 AF080230 AF080232 AF080233 AF080234 BE550633 AI636743 AW614951 BE467547 AI680833 AI633818 N29986 U87592 U87593 U87590 U87591 S46404 U87587 AA463992 AW206802 AI970376 AI583718 AI672574 N25695 AW665466 AI818326 AA126128 AI480345 AW013827 AA248638 AI214968 AA204735 AA207155 AA206262 AA204833 AW003247 AW496808 AI080480 AI631703 AI651023 AI867418 AW818140 AA502500 AI206199 AI671282 AI352545 BE501030 AI652535 BE465762 AA206331 AW451866 AA471088 AA206342 AA204834 AA206100 AW021661 AA332922 N66048 AA703396 H92278 AW139734 H92683 U87589 U87595 H69001 U87594 BE466420 AI624817 BE466611 AI206344 AA574397 AA348354 AI493192
118584	532052_1	AW136928 AI685655 BE218584 BE465078 N68963 AA975338 BE147199 N76377
103743	112194_1	AA075998 AA075999 AA070986 AA070896 AA129207 AA078942 AA070783 AA078941
103744	114161_1	AA079267 AA076003
103746	113452_1	AA075000 AA081876
103761	114208_1	AA765163 AW298222 AA126126 AA085138 AA076068
103763	48290_6	AA085291 AA085354
120209	1531817_1	F02951 Z40892 F04711
120284	158963_1	AA179656 AA182626 AA182603
112540	1605263_1	R69751 R70467 H69771 H80879 H80878
111904	1719336_1	Z41572 R39330
121059	273450_1	AA393283 AA398628
121094	275729_1	AA402505 AA398900
114106	1182096_1	AW602528 BE073859 Z38412
130091	23961_-3	W88999
122264	296527_1	AA436837 AA442594
108280	110682_1	AA065069 AA085108
129961	1706092_1	R23053 R79884 R76271
130529	158447_1	AA178953 AA192740
108309	111495_1	AA069818 AA069971 AA069923 AA069908
107832	genbank_AA021473	AA021473
123731	genbank_AA609839	AA609839
116571	genbank_D45652	D45652
132225	genbank_AA128980	AA128980
125017	genbank_T68875	T68875
125063	genbank_T85352	T85352
125064	genbank_T85373	T85373
100964	entrez_J00212	J00212
125118	149288_1	R10606 T97620 AA576309
102269	entrez_U30245U30245	
125150	NOT_FOUND_entrez_W38240	W38240
116801	genbank_H43879	H43879
118111	genbank_N55493	N55493
118129	genbank_N57493	N57493
118329	genbank_N63520	N63520
118475	genbank_N66845	N66845
111490	genbank_R06862	R06862
111514	genbank_R07998	R07998
104534	R22303_at	R22303
120340	genbank_AA206828	AA206828

120376	genbank_AA227469	AA227469
104787	genbank_AA027317	AA027317
120409	genbank_AA235050	AA235050
120745	genbank_AA302809	AA302809
120809	genbank_AA346495	AA346495
120839	genbank_AA348913	AA348913
113702	genbank_T97307	T97307
115001	genbank_AA251376	AA251376
122562	genbank_AA452156	AA452156
122635	genbank_AA454085	AA454085
108244	genbank_AA062839	AA062839
108277	genbank_AA064859	AA064859
122723	genbank_AA457380	AA457380
124028	genbank_F04112	F04112
108403	genbank_AA075374	AA075374
122860	genbank_AA464414	AA464414
108427	genbank_AA076382	AA076382
108439	genbank_AA078986	AA078986
131353	231290_1	AW411259 H23555 AW015049 AI684275 AW015886 AW068953 AW014085 AI027260 R52686 AA918278 AI129462 AA969360 N34869 AI948416 AA534205 AA702483 AA705292
108533	genbank_AA084415	AA084415
117031	genbank_H88353	H88353
124254	genbank_H69899	H69899
101447	entrez_M21305	M21305
101458	entrez_M22092	M22092
124577	genbank_N68300	N68300
108940	genbank_AA148603	AA148603
108941	genbank_AA148650	AA148650
124627	genbank_N74625	N74625
124720	144582_1	R05283 R11056
124793	genbank_R44519	R44519
124799	genbank_R45088	R45088
117683	genbank_N40180	N40180
117732	genbank_N46452	N46452
124991	genbank_T50116	T50116
119023	genbank_N98488	N98488
119239	95573_2	T11483 T11472
119558	NOT_FOUND_entrez_W38194	W38194
119654	genbank_W57759	W57759
105246	genbank_AA226879	AA226879
121350	genbank_AA405237	AA405237
121558	genbank_AA412497	AA412497
105985	genbank_AA406610	AA406610
100071	entrez_A28102A28102	
114648	genbank_AA101056	AA101056
121895	genbank_AA427396	AA427396
100327	entrez_D55640D55640	
123315	714071_1	AA496369 AA496646

TABLE 2:

Pkey: Unique Eos probeset identifier number
Accession: Accession number used for previous patent filings
ExAccn: Exemplar Accession number, Genbank accession number
UnigeneID: Unigene number
Unigene Title: Unigene gene title

Pkey	Accession	ExAccn	UnigeneID	UnigeneTitle
100420	100420	D86983	Hs.118893	Melanoma associated gene
100484	100484	NM_005402	Hs.288757	v-ral simian leukemia viral oncogene hom
100991	100991	J03836	Hs.82085	serine (or cysteine) proteinase inhibito
101168	101168	NM_005308	Hs.211569	G protein-coupled receptor kinase 5
101261	101261	D30857	Hs.82353	protein C receptor, endothelial (EPCR)
101447	101447	M21305		gb:Human alpha satellite and satellite 3
101543	101543	M31166	Hs.2050	pentaxin-related gene, rapidly induced b
101560	101560	AW958272	Hs.347326	intercellular adhesion molecule 2
101714	101714	M68874	Hs.211587	phospholipase A2, group IVA (cytosolic,
101838	101838	BE243845	Hs.75511	connective tissue growth factor
102012	102012	BE259035	Hs.118400	singed (Drosophila)-like (sea urchin fas
102164	102164	NM_000107	Hs.77602	damage-specific DNA binding protein 2 (4
102283	102283	AW161552	Hs.83381	guanine nucleotide binding protein 11
102564	102564	U59423	Hs.79067	MAD (mothers against decapentaplegic, Dr
102759	102759	NM_005100	Hs.788	A kinase (PRKA) anchor protein (gravin)
102804	102804	NM_002318	Hs.83354	lysyl oxidase-like 2
102898	102898	NM_002205	Hs.149609	integrin, alpha 5 (fibronectin receptor,
103036	103036	M13509	Hs.83169	matrix metalloproteinase 1 (interstitial
103095	103095	NM_005424	Hs.78824	tyrosine kinase with immunoglobulin and
103166	103166	AA159248	Hs.180909	peroxiredoxin 1
103280	103280	U84722	Hs.76206	cadherin 5, type 2, VE-cadherin (vascula
103850	103850	AA187101	Hs.213194	hypothetical protein MGC10895
104592	104592	AW630488	Hs.25338	protease, serine, 23
104786	104786	AA027167	Hs.10031	KIAA0955 protein
104865	104865	T79340	Hs.22575	B-cell CLL/lymphoma 6, member B (zinc fi
104952	104952	AW076098	Hs.345588	desmoplakin (DPI, DPII)
105178	105178	AA313825	Hs.21941	AD036 protein
105330	105330	AW338625	Hs.22120	ESTs
105729	105729	H46612	Hs.293815	Homo sapiens HSPC285 mRNA, partial cds
105977	105977	AK001972	Hs.30822	hypothetical protein FLJ11110
106031	106031	X64116	Hs.171844	Homo sapiens cDNA: FLJ22296 fis, clone H
106155	106155	AA425414	Hs.33287	nuclear factor I/B
106423	106423	AB020722	Hs.16714	Rho guanine exchange factor (GEF) 15
107174	107174	BE122762	Hs.25338	ESTs
107295	107295	AA186629	Hs.80120	UDP-N-acetyl-alpha-D-galactosamine:polyp
108756	108756	AA127221	Hs.117037	ESTs
108888	108888	AA135606	Hs.189384	gb:zl10a05.s1 Soares_pregnant_uterus_NbH
109166	109166	AA219691	Hs.73625	RAB6 interacting, kinesin-like (rabkines
109768	109768	F06838	Hs.14763	ESTs
110906	110906	AA035211	Hs.17404	ESTs
111006	111006	BE387014	Hs.166146	Homer, neuronal immediate early gene, 3
111133	111133	AW580939	Hs.97199	complement component C1q receptor
113073	113073	N39342	Hs.103042	microtubule-associated protein 1B
113923	113923	AW953484	Hs.3849	hypothetical protein FLJ22041 similar to
115061	115061	AI751438	Hs.41271	Homo sapiens mRNA full length insert cDN
115145	115145	AA740907	Hs.88297	ESTs
115947	115947	R47479	Hs.94761	KIAA1691 protein
116339	116339	AK000290	Hs.44033	dipeptidyl peptidase 8
116589	116589	AI557212	Hs.17132	ESTs, Moderately similar to I54374 gene
117023	117023	AW070211	Hs.102415	Homo sapiens mRNA; cDNA DKFZp586N0121 (f
117563	117563	AF055634	Hs.44553	unc5 (C.elegans homolog) c
118475	118475	N66845		gb:za46c11.s1 Soares fetal liver spleen
119073	119073	BE245360	Hs.279477	ESTs
119174	119174	R71234		gb:yi54c08.s1 Soares placenta Nb2HP Homo
119416	119416	T97186		gb:ye50h09.s1 Soares fetal liver spleen
121335	121335	AA404418		gb:zw37e02.s1 Soares_total_fetus_Nb2HF8_
123160	123160	AA488687	Hs.284235	ESTs, Weakly similar to I38022 hypotheti
123523	123523	AA608588		gb:ae54e06.s1 Stratagene lung carcinoma
123964	123964	C13961		gb:C13961 Clontech human aorta polyA+ mR
124315	124315	NM_005402	Hs.288757	v-ral simian leukemia viral oncogene hom
124669	124669	AI571594	Hs.102943	hypothetical protein MGC12916
124875	124875	AI887664	Hs.285814	sprouty (Drosophila) homolog 4
125103	125103	AA570056	Hs.122730	ESTs, Moderately similar to KIAA1215 pro
125565	125565	R20840		gb:yg05c08.r1 Soares infant brain 1NIB H

126511	126511	T92143	Hs.57958	EGF-TM7-latrophilin-related protein
126649	126649	AA001860	Hs.279531	ESTs
449602	449602	AA001860	Hs.279531	ESTs
127402	127402	AA358869	Hs.227949	SEC13 (S. cerevisiae)-like 1
128992	128992	H04150	Hs.107708	ESTs
129188	129188	NM_001078	Hs.109225	vascular cell adhesion molecule 1
129371	129371	X06828	Hs.110802	von Willebrand factor
129765	129765	M86933	Hs.1238	amelogenin (Y chromosome)
129884	129884	AF055581	Hs.13131	lysosomal
130639	130639	AI557212	Hs.17132	ESTs, Moderately similar to I54374 gene
130828	130828	AW631469	Hs.203213	ESTs
131080	131080	NM_001955	Hs.2271	endothelin 1
131182	131182	AI824144	Hs.23912	ESTs
131573	131573	AA040311	Hs.28959	ESTs
131756	131756	AA443966	Hs.31595	ESTs
131881	131881	AW361018	Hs.3383	upstream regulatory element binding prot
132083	132083	BE386490	Hs.279663	Pirin
132358	132358	NM_003542	Hs.46423	H4 histone family, member G
132456	132456	AB011084	Hs.48924	KIAA0512 gene product; ALEX2
132676	132676	N92589	Hs.261038	ESTs, Weakly similar to I38022 hypotheti
132718	132718	NM_004600	Hs.554	Sjogren syndrome antigen A2 (60kD, ribon
132760	132760	AA125985	Hs.56145	thymosin, beta, identified in neuroblast
132968	132968	AF234532	Hs.61638	myosin X
133061	133061	AI186431	Hs.296638	prostate differentiation factor
133161	133161	AW021103	Hs.6631	hypothetical protein FLJ20373
133260	133260	AA403045	Hs.6906	Homo sapiens cDNA: FLJ23197 fis, clone R
133491	133491	BE619053	Hs.170001	eukaryotic translation initiation factor
133550	133550	AI129903	Hs.74669	vesicle-associated membrane protein 5 (m
133614	133614	NM_003003	Hs.75232	SEC14 (S. cerevisiae)-like 1
133691	133691	M85289	Hs.211573	heparan sulfate proteoglycan 2 (perlecan
133913	133913	AU076964	Hs.7753	calumenin
133985	133985	L34657	Hs.78146	platelet/endothelial cell adhesion molec
134088	134088	AI379954	Hs.79025	KIAA0096 protein
134299	134299	AW580939	Hs.97199	complement component C1q receptor
116470	116470	AI272141	Hs.83484	SRY (sex determining region Y)-box 4
134989	134989	AW968058	Hs.92381	nudix (nucleoside diphosphate linked moi
135073	135073	W55956	Hs.94030	Homo sapiens mRNA; cDNA DKFZp586E1624 (f
100114	100114	X02308	Hs.82962	thymidylate synthetase
100143	100143	AU076465	Hs.278441	KIAA0015 gene product
100208	100208	NM_002933	Hs.78224	ribonuclease, RNase A family, 1 (pancrea
100405	100405	AW291587	Hs.82733	nidogen 2
100455	100455	AW888941	Hs.75789	N-myc downstream regulated
100618	100618	AI752163	Hs.114599	collagen, type VIII, alpha 1
100658	100658	U56725	Hs.180414	heat shock 70kD protein 2
100718	100718	BE295928	Hs.75424	inhibitor of DNA binding 1, dominant neg
100828	100828	AL048753	Hs.303649	small inducible cytokine A2 (monocyte ch
100991	100991	J03836	Hs.82085	serine (or cysteine) proteinase inhibito
101110	101110	AI439011	Hs.86386	myeloid cell leukemia sequence 1 (BCL2-r
101156	101156	AA340987	Hs.75693	prolylcarboxypeptidase (angiotensinase C
101184	101184	NM_001674	Hs.460	activating transcription factor 3
101317	101317	L42176	Hs.8302	four and a half LIM domains 2
101345	101345	NM_005795	Hs.152175	calcitonin receptor-like
101475	101475	BE410405	Hs.76288	calpain 2, (m/II) large subunit
101496	101496	X12784	Hs.119129	collagen, type IV, alpha 1
101543	101543	M31166	Hs.2050	pentaxin-related gene, rapidly induced b
101560	101560	AW958272	Hs.347326	intercellular adhesion molecule 2
101592	101592	AF064853	Hs.91299	guanine nucleotide binding protein (G pr
101634	101634	AV650262	Hs.75765	GRO2 oncogene
101682	101682	AF043045	Hs.81008	filamin B, beta (actin-binding protein-2
101720	101720	M69043	Hs.81328	nuclear factor of kappa light polypeptid
101744	101744	AI879352	Hs.118625	hexokinase 1
101837	101837	M92843	Hs.343586	zinc finger protein homologous to Zfp-36
101840	101840	AA236291	Hs.183583	serine (or cysteine) proteinase inhibito
101864	101864	BE392588	Hs.75777	transgelin
101966	101966	X96438	Hs.76095	immediate early response 3
102013	102013	BE616287	Hs.178452	catenin (cadherin-associated protein), a
102059	102059	AI752666	Hs.76669	nicotinamide N-methyltransferase
102283	102283	AW161552	Hs.83381	guanine nucleotide binding protein 11
102378	102378	AU076887	Hs.28491	spermidine/spermine N1-acetyltransferase
102460	102460	U48959	Hs.211582	myosin, light polypeptide kinase
102499	102499	BE243877	Hs.76941	ATPase, Na+/K+ transporting, beta 3 poly
102560	102560	R97457	Hs.63984	cadherin 13, H-cadherin (heart)
102589	102589	AU076728	Hs.8867	cysteine-rich, angiogenic inducer, 61
102645	102645	AL119566	Hs.6721	lysosomal
102693	102693	AA532780	Hs.183684	eukaryotic translation initiation factor
102759	102759	NM_005100	Hs.788	A kinase (PRKA) anchor protein (gravin)

102882	102882	AI767736	Hs.290070	gelsolin (amyloidosis, Finnish type)
102915	102915	X07820.	Hs.2258	matrix metalloproteinase 10 (stromelysin
102960	102960	AI904738	Hs.76053	DEAD/H (Asp-Glu-Ala-Asp/His) box polypep
103020	103020	X53416	Hs.195464	filamin A, alpha (actin-binding protein-
103036	103036	M13509	Hs.83169	matrix metalloproteinase 1 (interstitial
103080	103080	AU077231	Hs.82932	cyclin D1 (PRAD1: parathyroid adenomatos
103138	103138	X65965		gb:H.sapiens SOD-2 gene for manganese su
103195	103195	AA351647	Hs.2642	eukaryotic translation elongation factor
103371	103371	X91247	Hs.13046	thioredoxin reductase 1
103471	103471	Y00815	Hs.75216	protein tyrosine phosphatase, receptor t
104447	104447	AW204145	Hs.156044	ESTs
104783	104783	AA533513	Hs.93659	protein disulfide isomerase related prot
104865	104865	T79340	Hs.22575	B-cell CLL/lymphoma 6, member B (zinc fi
104894	104894	AF065214	Hs.18858	phospholipase A2, group IVC (cytosolic,
105113	105113	AB037816	Hs.8982	Homo sapiens, clone IMAGE:3506202, mRNA,
105196	105196	W84893	Hs.9305	angiotensin receptor-like 1
105263	105263	AW388633	Hs.6682	solute carrier family 7, (cationic amino
105330	105330	AW338625	Hs.22120	ESTs
105492	105492	AI805717	Hs.289112	CGI-43 protein
105594	105594	AB024334	Hs.25001	tyrosine 3-monooxygenase/tryptophan 5-mo
105732	105732	AW504170	Hs.274344	hypothetical protein MGC12942
105882	105882	W46802	Hs.81988	disabled (Drosophila) homolog 2 (mitogen
106031	106031	X64116	Hs.171844	Homo sapiens cDNA: FLJ22296 fis, clone H
106222	106222	AA356392	Hs.21321	Homo sapiens clone FLB9213 PRO2474 mRNA,
106263	106263	W21493	Hs.28329	hypothetical protein FLJ14005
106366	106366	AA186715	Hs.336429	RIKEN cDNA 9130422N19 gene
106634	106634	W25491	Hs.288909	hypothetical protein FLJ22471
106793	106793	H94997	Hs.16450	ESTs
106842	106842	AF124251	Hs.26054	novel SH2-containing protein 3
106890	106890	AA489245	Hs.88500	mitogen-activated protein kinase 8 inter
106974	106974	AI817130	Hs.9195	Homo sapiens cDNA FLJ13698 fis, clone PL
107061	107061	BE147611	Hs.6354	stromal cell derived factor receptor 1
107216	107216	D51069	Hs.211579	melanoma cell adhesion molecule
107444	107444	W28391	Hs.343258	proliferation-associated 2G4, 38kD
108507	108507	AI554545	Hs.68301	ESTs
108931	108931	AA147186		gb:zo38d01.s1 Stratagene endothelial cel
109195	109195	AF047033	Hs.132904	solute carrier family 4, sodium bicarbon
109456	109456	AW956580	Hs.42699	ESTs
110411	110411	AW001579	Hs.9645	Homo sapiens mRNA for KIAA1741 protein,
110906	110906	AA035211	Hs.17404	ESTs
111091	111091	AA300067	Hs.33032	hypothetical protein DKFZp434N185
111378	111378	AW160993	Hs.326292	hypothetical gene DKFZp434A1114
111769	111769	AW629414	Hs.24230	ESTs
112951	112951	AA307634	Hs.6650	vacuolar protein sorting 45B (yeast homo
113195	113195	H83265	Hs.8881	ESTs, Weakly similar to S41044 chromosom
113542	113542	H43374	Hs.7890	Homo sapiens mRNA for KIAA1671 protein,
113847	113847	NM_005032	Hs.4114	plastin 3 (T isoform)
113947	113947	W84768		gb:zh53d03.s1 Soares_fetal_liver_spleen_
115061	115061	AI751438	Hs.41271	Homo sapiens mRNA full length insert cDN
115870	115870	NM_005985	Hs.48029	snail 1 (drosophila homolog), zinc finge
116228	116228	AI767947	Hs.50841	ESTs
116314	116314	AI799104	Hs.178705	Homo sapiens cDNA FLJ11333 fis, clone PL
117023	117023	AW070211	Hs.102415	Homo sapiens mRNA; cDNA DKFZp586N0121 (f
117156	117156	W73853		ESTs
117280	117280	M18217	Hs.172129	Homo sapiens cDNA: FLJ21409 fis, clone C
119866	119866	AA496205	Hs.193700	Homo sapiens mRNA; cDNA DKFZp586I0324 (f
121314	121314	W07343	Hs.182538	phospholipid scramblase 4
121822	121822	AI743860		metallothionein 1E (functional)
122331	122331	AL133437	Hs.110771	Homo sapiens cDNA: FLJ21904 fis, clone H
123160	123160	AA488687	Hs.284235	ESTs, Weakly similar to I38022 hypotheti
124059	124059	BE387335	Hs.283713	ESTs, Weakly similar to S64054 hypotheti
124358	124358	AW070211	Hs.102415	Homo sapiens mRNA; cDNA DKFZp586N0121 (f
124726	124726	NM_003654	Hs.104576	carbohydrate (keratan sulfate Gal-6) sul
125167	125167	AL137540	Hs.102541	netrin 4
125307	125307	AW580945	Hs.330466	ESTs
107985	107985	T40064	Hs.71968	Homo sapiens mRNA; cDNA DKFZp564F053 (fr
125598	125598	T40064	Hs.71968	Homo sapiens mRNA; cDNA DKFZp564F053 (fr
413731	413731	BE243845	Hs.75511	connective tissue growth factor
116024	116024	AA088767	Hs.83883	transmembrane, prostate androgen induced
418000	418000	AA932794	Hs.83147	guanine nucleotide binding protein-like
126399	126399	AA088767	Hs.83883	transmembrane, prostate androgen induced
127566	127566	AI051390	Hs.116731	ESTs
128453	128453	X02761	Hs.287820	fibronectin 1
128515	128515	BE395085	Hs.10086	type I transmembrane protein Fn14
128623	128623	BE076608	Hs.105509	CTL2 gene
128669	128669	W28493	Hs.180414	heat shock 70kD protein 8

128914	128914	AW867491	Hs.107125	plasmalemma vesicle associated protein
129188	129188	NM_001078	Hs.109225	vascular cell adhesion molecule 1
129265	129265	AA530892	Hs.171695	dual specificity phosphatase 1
129468	129468	AW410538	Hs.111779	secreted protein, acidic, cysteine-rich
101838	101838	BE243845	Hs.75511	connective tissue growth factor
129619	129619	AA209534	Hs.284243	tetraspan NET-6 protein
129762	129762	AA453694	Hs.12372	tripartite motif protein TRIM2
130018	130018	AA353093		metallothionein 1L
130178	130178	U20982	Hs.1516	insulin-like growth factor-binding prote
130431	130431	AW505214	Hs.155560	calnexin
130553	130553	AF062649	Hs.252587	pituitary tumor-transforming 1
130639	130639	AI557212	Hs.17132	ESTs, Moderately similar to I54374 gene
130686	130686	BE548267	Hs.337986	Homo sapiens cDNA FLJ10934 fis, clone OV
130818	130818	AW190920	Hs.19928	hypothetical protein SP329
130899	130899	AI077288	Hs.296323	serum/glucocorticoid regulated kinase
131080	131080	NM_001955	Hs.2271	endothelin 1
131091	131091	AJ271216	Hs.22880	dipeptidylpeptidase III
131182	131182	AI824144	Hs.23912	ESTs
131319	131319	NM_003155	Hs.25590	stanniocalcin 1
131328	131328	AW939251	Hs.25647	v-fos FBJ murine osteosarcoma viral onco
131328	131328	AW939251	Hs.25647	v-fos FBJ murine osteosarcoma viral onco
131555	131555	T47364	Hs.278613	interferon, alpha-inducible protein 27
131573	131573	AA040311	Hs.28959	ESTs
131756	131756	AA443966	Hs.31595	ESTs
131909	131909	NM_016558	Hs.274411	SCAN domain-containing 1
132046	132046	AI359214	Hs.179260	chromosome 14 open reading frame 4
132151	132151	BE379499	Hs.173705	Homo sapiens cDNA: FLJ22050 fis, clone H
132187	132187	AA235709	Hs.4193	DKFZP586O1624 protein
132314	132314	AF112222	Hs.323806	pinin, desmosome associated protein
132398	132398	AA876616	Hs.16979	ESTs, Weakly similar to A43932 mucin 2 p
132490	132490	NM_001290	Hs.4980	LIM domain binding 2
132546	132546	M24283	Hs.168383	intercellular adhesion molecule 1 (CD54)
132716	132716	BE379595	Hs.283738	casein kinase 1, alpha 1
132883	132883	AA373314	Hs.5897	Homo sapiens mRNA; cDNA DKFZp586P1622 (f
132989	132989	AA480074	Hs.331328	hypothetical protein FLJ13213
133071	133071	BE384932	Hs.64313	ESTs, Weakly similar to AF257182 1 G-pro
133099	133099	W16518	Hs.279518	amyloid beta (A4) precursor-like protein
133149	133149	AA370045	Hs.6607	AXIN1 up-regulated
133200	133200	AB037715	Hs.183639	hypothetical protein FLJ10210
133260	133260	AA403045	Hs.6906	Homo sapiens cDNA: FLJ23197 fis, clone R
133349	133349	AW631255	Hs.8110	L-3-hydroxyacyl-Coenzyme A dehydrogenase
133398	133398	NM_000499	Hs.72912	cytochrome P450, subfamily I (aromatic c
133454	133454	BE547647	Hs.177781	hypothetical protein MGC5618
133491	133491	BE619053	Hs.170001	eukaryotic translation initiation factor
133517	133517	NM_000165	Hs.74471	gap junction protein, alpha 1, 43kD (con
133538	133538	NM_003257	Hs.74614	tight junction protein 1 (zona occludens
133584	133584	D90209	Hs.181243	activating transcription factor 4 (tax-r
133617	133617	BE244334	Hs.75249	ADP-ribosylation factor-like 6 interacti
133671	133671	AW503116	Hs.301819	zinc finger protein 146
133681	133681	AI352558		tyrosine 3-monooxygenase/tryptophan 5-mo
133730	133730	BE242779	Hs.179526	upregulated by 1,25-dihydroxyvitamin D-3
133802	133802	AW239400	Hs.76297	G protein-coupled receptor kinase 6
133838	133838	BE222494	Hs.180919	inhibitor of DNA binding 2, dominant neg
133889	133889	U48959	Hs.211582	myosin, light polypeptide kinase
133975	133975	C18356	Hs.295944	tissue factor pathway inhibitor 2
134039	134039	NM_002290	Hs.78672	laminin, alpha 4
134081	134081	AL034349	Hs.79005	protein tyrosine phosphatase, receptor t
134203	134203	AA161219	Hs.799	diphtheria toxin receptor (heparin-bindi
134299	134299	AW580939	Hs.97199	complement component C1q receptor
134339	134339	R70429	Hs.81988	disabled (Drosophila) homolog 2 (mitogen
134381	134381	AI557280	Hs.184270	capping protein (actin filament) muscle
134416	134416	X68264	Hs.211579	melanoma cell adhesion molecule
134558	134558	NM_001773	Hs.85289	CD34 antigen
134983	134983	D28235	Hs.196384	prostaglandin-endoperoxide synthase 2 (p
135052	135052	AL136653	Hs.93675	decidual protein induced by progesterone
135069	135069	AA876372	Hs.93961	Homo sapiens mRNA; cDNA DKFZp667D095 (fr
135073	135073	W55956	Hs.94030	Homo sapiens mRNA; cDNA DKFZp586E1624 (f
135196	135196	C03577	Hs.9615	myosin regulatory light chain 2, smooth
134404	134404	AB000450	Hs.82771	vaccinia related kinase 2
100082	100082	AA130080	Hs.4295	proteasome (prosome, macropain) 26S subu
130150	130150	BE094848	Hs.15113	homogentisate 1,2-dioxygenase (homogenti
130839	130839	AB011169	Hs.20141	similar to S. cerevisiae SSM4
100113	100113	NM_001269	Hs.84746	chromosome condensation 1
100129	100129	AA469369	Hs.5831	tissue inhibitor of metalloproteinase 1
100169	100169	AL037228	Hs.82043	D123 gene product
100190	100190	M91401	Hs.178658	RAD23 (S. cerevisiae) homolog B

100211	100211	D26528	Hs.123058	DEAD/H (Asp-Glu-Ala-Asp/His) box polypep
130283	130283	NM_012288	Hs.153954	TRAM-like protein
100248	100248	NM_015156	Hs.78398	KIAA0071 protein
100262	100262	D38500	Hs.278468	postmeiotic segregation increased 2-like
100281	100281	AF091035	Hs.184627	KIAA0118 protein
100327	100327	D55640		gb:Human monocyte PABL (pseudoautosomal
134495	134495	D63477	Hs.84087	KIAA0143 protein
135152	135152	M96954	Hs.182741	TIA1 cytotoxic granule-associated RNA-bi
100372	100372	NM_014791	Hs.184339	KIAA0175 gene product
100394	100394	D84284	Hs.66052	CD38 antigen (p45)
100418	100418	D86978	Hs.84790	KIAA0225 protein
134347	134347	AF164142	Hs.82042	solute carrier family 23 (nucleobase tra
100438	100438	AA013051	Hs.91417	topoisomerase (DNA) II binding protein
100481	100481	X70377	Hs.121489	cystatin D
100591	100591	NM_004091	Hs.231444	Homo sapiens, Similar to hypothetical pr
100662	100662	AI368680	Hs.816	SRY (sex determining region Y)-box 2
100905	100905	L12260	Hs.172816	neuregulin 1
100950	100950	AF128542	Hs.166846	polymerase (DNA directed), epsilon
135407	135407	J04029	Hs.99936	keratin 10 (epidermolytic hyperkeratosis
131877	131877	J04088	Hs.156346	topoisomerase (DNA) II alpha (170kD)
134786	134786	T29618	Hs.89640	TEK tyrosine kinase, endothelial (venous
134078	134078	L08895	Hs.78995	MADS box transcription enhancer factor 2
134849	134849	BE409525	Hs.902	neurofibromin 2 (bilateral acoustic neur
101152	101152	AI984625	Hs.9884	spindle pole body protein
131687	131687	BE297635	Hs.3069	heat shock 70kD protein 9B (mortalin-2)
421155	421155	H87879	Hs.102267	lysyl oxidase
133975	133975	C18356	Hs.295944	tissue factor pathway inhibitor 2
130155	130155	AA101043	Hs.151254	kallikrein 7 (chymotryptic, stratum corn
132813	132813	BE313625	Hs.57435	solute carrier family 11 (proton-coupled
101300	101300	BE535511		transmembrane trafficking protein
130344	130344	AW250122	Hs.154879	DiGeorge syndrome critical region gene D
101381	101381	AW675039	Hs.1227	aminolevulinate, delta-, dehydratase
133780	133780	AA557660	Hs.76152	decorin
101447	101447	M21305		gb:Human alpha satellite and satellite 3
101470	101470	NM_000546	Hs.1846	tumor protein p53 (Li-Fraumeni syndrome)
101478	101478	NM_002890	Hs.758	RAS p21 protein activator (GTPase activa
133519	133519	AW583062	Hs.74502	chymotrypsinogen B1
134116	134116	R84694	Hs.79194	cAMP responsive element binding protein
130174	130174	M29551	Hs.151531	protein phosphatase 3 (formerly 2B), cat
132983	132983	M30269		nidogen (enactin)
101543	101543	M31166	Hs.2050	pentaxin-related gene, rapidly induced b
101620	101620	S55271	Hs.247930	Epsilon , IgE
133595	133595	AA393273	Hs.75133	transcription factor 6-like 1 (mitochond
101700	101700	D90337	Hs.247916	natriuretic peptide precursor C
134246	134246	D28459	Hs.80612	ubiquitin-conjugating enzyme E2A (RAD6 h
133948	133948	X59960	Hs.77813	sphingomyelin phosphodiesterase 1, acid
133948	133948	X59960	Hs.77813	sphingomyelin phosphodiesterase 1, acid
133948	133948	X59960	Hs.77813	sphingomyelin phosphodiesterase 1, acid
101812	101812	BE439894	Hs.78991	DNA segment, numerous copies, expressed
133396	133396	M96326	Hs.72885	azurocidin 1 (cationic antimicrobial pro
129026	129026	AL120297	Hs.108043	Friend leukemia virus integration 1
134831	134831	AA853479	Hs.89890	pyruvate carboxylase
134395	134395	AA456539	Hs.8262	lysosomal
101977	101977	AF112213	Hs.184062	putative Rab5-interacting protein
101998	101998	U01212	Hs.248153	olfactory marker protein
102007	102007	U02556	Hs.75307	t-complex-associated-testis-expressed 1-
416658	416658	U03272	Hs.79432	fibrillin 2 (congenital contractural ara
135389	135389	U05237	Hs.99872	fetal Alzheimer antigen
130145	130145	U34820	Hs.151051	mitogen-activated protein kinase 10
420269	420269	U72937	Hs.96264	alpha thalassemia/mental retardation syn
102123	102123	NM_001809	Hs.1594	centromere protein A (17kD)
102133	102133	AU076845	Hs.155596	BCL2/adenovirus E1B 19kD-interacting pro
102162	102162	AA450274	Hs.1592	CDC16 (cell division cycle 16, S. cerevi
427653	427653	AA159001	Hs.180069	nuclear respiratory factor 1
102200	102200	AA232362	Hs.157205	branched chain aminotransferase 1, cytos
102214	102214	U23752	Hs.32964	SRY (sex determining region Y)-box 11
131319	131319	NM_003155	Hs.25590	stanniocalcin 1
132316	132316	U28831	Hs.44566	KIAA1641 protein
134365	134365	AA568906	Hs.82240	syntaxin 3A
102298	102298	AA382169	Hs.54483	N-myc (and STAT) interactor
302344	302344	BE303044	Hs.192023	eukaryotic translation initiation factor
102367	102367	U39656	Hs.118825	mitogen-activated protein kinase kinase
102394	102394	NM_003816	Hs.2442	a disintegrin and metalloproteinase doma
129521	129521	AF071076	Hs.112255	nucleoporin 98kD
102251	102251	NM_004398	Hs.41706	DEAD/H (Asp-Glu-Ala-Asp/His) box polypep
133746	133746	AW410035	Hs.75862	MAD (mothers against decapentaplegic, Dr

132828	132828	AB014615	Hs.57710	fibroblast growth factor 8 (androgen-ind
132828	132828	AB014615	Hs.57710	fibroblast growth factor 8 (androgen-ind
130441	130441	U63630	Hs.155637	protein kinase, DNA-activated, catalytic
129350	129350	U50535	Hs.110630	Human BRCA2 region, mRNA sequence CG006
130457	130457	AB014595	Hs.155976	cullin 4B
102560	102560	R97457	Hs.63984	cadherin 13, H-cadherin (heart)
134305	134305	U61397	Hs.81424	ubiquitin-like 1 (sentrin)
132736	132736	AW081883	Hs.211578	Homo sapiens cDNA: FLJ23037 fis, clone L
102663	102663	NM_002270	Hs.168075	karyopherin (importin) beta 2
102735	102735	AF111106	Hs.3382	protein phosphatase 4, regulatory subuni
101175	101175	U82671	Hs.36980	melanoma antigen, family A, 2
132164	132164	AI752235	Hs.41270	procollagen-lysine, 2-oxoglutarate 5-dio
102826	102826	NM_007274	Hs.8679	cytosolic acyl coenzyme A thioester hydr
102846	102846	BE264974	Hs.6566	thyroid hormone receptor interactor 13
134161	134161	AA634543	Hs.79440	IGF-II mRNA-binding protein 3
302363	302363	AW163799	Hs.198365	2,3-bisphosphoglycerate mutase
125701	125701	T72104	Hs.93194	apolipoprotein A-I
134656	134656	AI750878	Hs.87409	thrombospondin 1
102968	102968	AU076611	Hs.154672	methylene tetrahydrofolate dehydrogenase
134037	134037	AI808780	Hs.227730	integrin, alpha 6
103023	103023	AW500470	Hs.117950	multifunctional polypeptide similar to S
130282	130282	BE245380	Hs.153952	5' nucleotidase (CD73)
128568	128568	H12912	Hs.274691	adenylate kinase 3
103093	103093	S79876	Hs.44926	dipeptidylpeptidase IV (CD26, adenosine
129063	129063	X63094	Hs.283822	Rhesus blood group, D antigen
133227	133227	AW977263	Hs.68257	general transcription factor IIF, polype
103184	103184	U43143	Hs.74049	fms-related tyrosine kinase 4
103208	103208	AW411340	Hs.31314	retinoblastoma-binding protein 7
131486	131486	F06972	Hs.27372	BMX non-receptor tyrosine kinase
103334	103334	NM_001260	Hs.25283	cyclin-dependent kinase 8
135094	135094	NM_003304	Hs.250687	transient receptor potential channel 1
103352	103352	H09366	Hs.78853	uracil-DNA glycosylase
132173	132173	X89426	Hs.41716	endothelial cell-specific molecule 1
131584	131584	AA598509	Hs.29117	purine-rich element binding protein A
103378	103378	AL119690	Hs.153618	HCGVIII-1 protein
103410	103410	AA158294	Hs.295362	DR1-associated protein 1 (negative cofac
103438	103438	AW175781	Hs.152720	M-phase phosphoprotein 6
103452	103452	NM_006936	Hs.85119	SMT3 (suppressor of mif two 3, yeast) ho
135185	135185	AW404908	Hs.96038	Ric (Drosophila)-like, expressed in many
134662	134662	NM_007048	Hs.284283	butyrophilin, subfamily 3, member A1
103500	103500	AW408009	Hs.22580	alkylglycerone phosphate synthase
132084	132084	NM_002267	Hs.3886	karyopherin alpha 3 (importin alpha 4)
133152	133152	Z11695	Hs.324473	mitogen-activated protein kinase 1
103612	103612	BE336654	Hs.70937	H3 histone family, member A
103692	103692	AW137912	Hs.227583	Homo sapiens chromosome X map Xp11.23 L-
129796	129796	BE218319	Hs.5807	GTPase Rab14
132683	132683	BE264633	Hs.143638	WD repeat domain 4
103723	103723	BE274312	Hs.214783	Homo sapiens cDNA FLJ14041 fis, clone HE
133260	133260	AA403045	Hs.6906	Homo sapiens cDNA: FLJ23197 fis, clone R
103766	103766	AI920783	Hs.191435	ESTs
132051	132051	AA393968	Hs.180145	HSPC030 protein
135289	135289	AW372569	Hs.9788	hypothetical protein MGC10924 similar to
103794	103794	AF244135	Hs.30670	hepatocellular carcinoma-associated anti
134319	134319	BE304999	Hs.285754	fumarate hydratase
119159	119159	AF142419	Hs.15020	homolog of mouse quaking QKI (KH domain
103850	103850	AA187101	Hs.213194	hypothetical protein MGC10895
322026	322026	AW024973	Hs.283675	NPD009 protein
103861	103861	AA206236	Hs.4944	hypothetical protein FLJ12783
447735	447735	AA775268	Hs.6127	Homo sapiens cDNA: FLJ23020 fis, clone L
131236	131236	AF043117	Hs.24594	ubiquitination factor E4B (homologous to
129013	129013	AA371156	Hs.107942	DKFZP564M112 protein
103988	103988	AA314389	Hs.342849	ADP-ribosylation factor-like 5
425284	425284	AF155568	Hs.348043	NS1-associated protein 1
133281	133281	AK001601	Hs.69594	high-mobility group 20A
108154	108154	NM_005754	Hs.220689	Ras-GTPase-activating protein SH3-domain
135073	135073	W55956	Hs.94030	Homo sapiens mRNA; cDNA DKFZp586E1624 (f
129593	129593	AI338247	Hs.98314	Homo sapiens mRNA; cDNA DKFZp586L0120 (f
132064	132064	AA121098	Hs.3838	serum-inducible kinase
131427	131427	AF151879	Hs.26706	CGI-121 protein
104282	104282	C14448	Hs.332338	EST
130443	130443	D25216	Hs.155650	KIAA0014 gene product
132837	132837	AA370362	Hs.57958	EGF-TM7-latrophilin-related protein
104334	104334	D82614	Hs.78771	phosphoglycerate kinase 1
134731	134731	D89377	Hs.89404	msh (Drosophila) homeo box homolog 2
131670	131670	H03514	Hs.15589	ESTs
104402	104402	H56731	Hs.132956	ESTs

129077	129077	N74724	Hs.108479	ESTs
134927	134927	L36531	Hs.91296	integrin, alpha 8
134498	134498	AW246273	Hs.84131	threonyl-tRNA synthetase
104488	104488	N56191	Hs.106511	protocadherin 17
129214	129214	AL044335	Hs.109526	zinc finger protein 198
104530	104530	AK001676	Hs.12457	hypothetical protein FLJ10814
104544	104544	AI091173	Hs.222362	ESTs, Weakly similar to p40 [H.sapiens]
104567	104567	AA040620	Hs.5672	hypothetical protein AF140225
129575	129575	F08282	Hs.278428	progestin induced protein
104599	104599	AW815036	Hs.151251	ESTs
104667	104667	AI239923	Hs.63931	ESTs
104764	104764	AI039243	Hs.278585	ESTs
104787	104787	AA027317		gb:ze97d11.s1 Soares_fetal_heart_NbHH19W
104804	104804	AI858702	Hs.31803	ESTs, Weakly similar to N-WASP [H.sapien
130828	130828	AW631469	Hs.203213	ESTs
104943	104943	AF072873	Hs.114218	frizzled (Drosophila) homolog 6
105024	105024	AA126311	Hs.9879	ESTs
105038	105038	AW503733	Hs.9414	KIAA1488 protein
105096	105096	AL042506	Hs.21599	Kruppel-like factor 7 (ubiquitous)
105169	105169	BE245294	Hs.180789	S164 protein
130401	130401	BE396283	Hs.173987	eukaryotic translation initiation factor
130114	130114	AA233393	Hs.14992	hypothetical protein FLJ11151
105337	105337	AI468789	Hs.347187	myotubularin related protein 1
105376	105376	AW994032	Hs.8768	hypothetical protein FLJ10849
131962	131962	AK000046	Hs.343877	hypothetical protein FLJ20039
128658	128658	BE397354	Hs.324830	diptheria toxin resistance protein requi
105508	105508	AA173942	Hs.326416	Homo sapiens mRNA; cDNA DKFZp564H1916 (f
135172	135172	AB028956	Hs.12144	KIAA1033 protein
132542	132542	AL137751	Hs.263671	Homo sapiens mRNA; cDNA DKFZp434I0812 (f
105659	105659	AA283044	Hs.25625	hypothetical protein FLJ11323
105674	105674	AI609530	Hs.279789	histone deacetylase 3
105722	105722	AI922821	Hs.32433	ESTs
115951	115951	BE546245	Hs.301048	sec13-like protein
105985	105985	AA406610		gb:zv15b10.s1 Soares_NhHMPu_S1 Homo sapi
131216	131216	AI815486	Hs.243901	Homo sapiens cDNA FLJ20738 fis, clone HE
113689	113689	AB037850	Hs.16621	DKFZP434I116 protein
130839	130839	AB011169	Hs.20141	similar to S. cerevisiae SSM4
130777	130777	AW135049	Hs.26285	Homo sapiens cDNA FLJ10643 fis, clone NT
106196	106196	AA525993	Hs.173699	ESTs, Weakly similar to ALU1_HUMAN ALU S
133200	133200	AB037715	Hs.183639	hypothetical protein FLJ10210
106328	106328	AL079559	Hs.28020	KIAA0766 gene product
106423	106423	AB020722	Hs.16714	Rho guanine exchange factor (GEF) 15
439608	439608	AW864696	Hs.301732	hypothetical protein MGC5306
106503	106503	AB033042	Hs.29679	cofactor required for Sp1 transcriptiona
106543	106543	AA676939	Hs.69285	neuropilin 1
106589	106589	AK000933	Hs.28661	Homo sapiens cDNA FLJ10071 fis, clone HE
106596	106596	AA452379		ESTs, Moderately similar to ALU7_HUMAN A
106636	106636	AW958037	Hs.286	ribosomal protein L4
131353	131353	AW754182		gb:RC2-CT0321-131199-011-c01 CT0321 Homo
131710	131710	NM_015368	Hs.30985	pannexin 1
131775	131775	AB014548	Hs.31921	KIAA0648 protein
106773	106773	AA478109	Hs.188833	ESTs
106817	106817	D61216	Hs.18672	ESTs
106848	106848	AA449014	Hs.121025	chromosome 11 open reading frame 5
418699	418699	BE539639	Hs.173030	ESTs, Weakly similar to ALU8_HUMAN ALU S
130638	130638	AW021276	Hs.17121	ESTs
107059	107059	BE614410	Hs.23044	RAD51 (S. cerevisiae) homolog (E coli Re
107115	107115	BE379623	Hs.27693	peptidylprolyl isomerase (cyclophilin)-l
107156	107156	AA137043	Hs.9663	programmed cell death 6-interacting prot
130621	130621	AW513087	Hs.16803	LUC7 (S. cerevisiae)-like
132626	132626	AW504732	Hs.21275	hypothetical protein FLJ11011
131610	131610	AA357879	Hs.29423	scavenger receptor with C-type lectin
107295	107295	AA186629	Hs.80120	UDP-N-acetyl-alpha-D-galactosamine:polyp
107315	107315	AA316241	Hs.90691	nucleophosmin/nucleoplasmin 3
107328	107328	AW959891	Hs.76591	KIAA0887 protein
134715	134715	U48263	Hs.89040	prepronociceptin
129938	129938	AW003668	Hs.135587	Human clone 23629 mRNA sequence
130074	130074	AL038596	Hs.250745	polymerase (RNA) III (DNA directed) (62k
132036	132036	AL157433	Hs.37706	hypothetical protein DKFZp434E2220
113857	113857	AW243158	Hs.5297	DKFZP564A2416 protein
130419	130419	AF037448	Hs.155489	NS1-associated protein 1
132616	132616	BE262677	Hs.283558	hypothetical protein PRO1855
132358	132358	NM_003542	Hs.46423	H4 histone family, member G
125827	125827	NM_003403	Hs.97496	YY1 transcription factor
107609	107609	R75654	Hs.164797	hypothetical protein FLJ13693
107714	107714	AA015761	Hs.60642	ESTs

107832	107832	AA021473		gb:ze66c11.s1 Soares retina N2b4HR Homo
124337	124337	N23541	Hs.281561	Homo sapiens cDNA: FLJ23582 fis, clone L
129577	129577	N75346	Hs.306121	CDC20 (cell division cycle 20, S. cerevi
132000	132000	AW247017	Hs.36978	melanoma antigen, family A, 3
107935	107935	AA029428	Hs.61555	ESTs
131461	131461	AA992841	Hs.27263	KIAA1458 protein
108029	108029	AA040740	Hs.62007	ESTs
108084	108084	AA058944	Hs.116602	Homo sapiens, clone IMAGE:4154008, mRNA,
108168	108168	AI453137	Hs.63176	ESTs
108189	108189	AW376061	Hs.63335	ESTs, Moderately similar to A46010 X-lin
108203	108203	AW847814	Hs.289005	Homo sapiens cDNA: FLJ21532 fis, clone C
108217	108217	AA058686	Hs.62588	ESTs
108277	108277	AA064859		gb:zm50f03.s1 Stratagene fibroblast (937
108309	108309	AA069818		gb:zm67e03.r1 Stratagene neuroepithelium
108340	108340	AA069820	Hs.180909	peroxiredoxin 1
108427	108427	AA076382		gb:zm91g08.s1 Stratagene ovarian cancer
108439	108439	AA078986		gb:zm92h01.s1 Stratagene ovarian cancer
108469	108469	AA079487		gb:zm97f08.s1 Stratagene colon HT29 (937
108501	108501	AA083256		gb:zn08g12.s1 Stratagene hNT neuron (937
108562	108562	AA100796		gb:zm26c06.s1 Stratagene pancreas (93720
130890	130890	AI907537	Hs.76698	stress-associated endoplasmic reticulum
130385	130385	AW067800	Hs.155223	stanniocalcin 2
108807	108807	AI652236	Hs.49376	hypothetical protein FLJ20644
108833	108833	AF188527	Hs.61661	ESTs, Weakly similar to AF174605 1 F-box
108846	108846	AL117452	Hs.44155	DKFZP586G1517 protein
131474	131474	L46353	Hs.2726	high-mobility group (nonhistone chromoso
108941	108941	AA148650		gb:zo09e06.s1 Stratagene neuroepithelium
108996	108996	AW995610	Hs.332436	EST
131183	131183	AI611807	Hs.285107	hypothetical protein FLJ13397
109022	109022	AA157291	Hs.21479	ubinuclein 1
109068	109068	AA164293	Hs.72545	ESTs
129021	129021	AL044675	Hs.173081	KIAA0530 protein
109146	109146	AA176589	Hs.142078	EST
131080	131080	NM_001955	Hs.2271	endothelin 1
109222	109222	AA192833	Hs.333512	similar to rat myomegalin
109481	109481	AA878923	Hs.289069	hypothetical protein FLJ21016
109516	109516	AI471639	Hs.71913	ESTs
109556	109556	AI925294	Hs.87385	ESTs
109578	109578	F02208	Hs.27214	ESTs
109625	109625	H29490	Hs.22697	ESTs
109648	109648	H17800	Hs.7154	ESTs
109699	109699	H18013	Hs.167483	ESTs
109933	109933	R52417	Hs.20945	Homo sapiens clone 24993 mRNA sequence
110039	110039	H11938	Hs.21907	histone acetyltransferase

TABLE 2A

Table 2A shows the accession numbers for those pkeys lacking unigeneID's for Table 2. The pkeys in Table 7 lacking unigeneID's are represented within Tables 1-6A. For each probeset we have listed the gene cluster number from which the oligonucleotides were designed. Gene clusters were compiled using sequences derived from Genbank ESTs and mRNAs. These sequences were clustered based on sequence similarity using Clustering and Alignment Tools (DoubleTwist, Oakland California). The Genbank accession numbers for sequences comprising each cluster are listed in the "Accession" column.

Pkey:	Unique Eos probeset identifier number
CAT number:	Gene cluster number
Accession:	Genbank accession numbers

Pkey	CAT Number	Accession
108469	116761_1	AA079487 AA128547 AA128291 AA079587 AA079600
108501	13684_-12	AA083256
108562	36375_1	AA100796 AF020589 AA074629 AA075946 AA100849 AA085347 AA126309 AA079311 AA079323 AA085274
101300	4669_1	BE535511 M62098 AA306787 AW891766 AA348998 AA338869 AA344013 AW956561 AW389343 AW403607 L40391 AW408435 AA121738 AI568978 H13317 R20373 AW948724 AW948744 AA335023 AA436722 AA448690 C21404 AW884390 AA345454 AA303292 AA174174 BE092290 T90614 AA035104 R76028 AA126924 AA741086 AW022056 AW118940 AA121666 AI832409 AA683475 AI140901 AI623576 AW519064 AW474125 AI953923 AI735349 AW150109 AI436154 AW118130 AW270782 AI804073 N27434 AA876543 AA937815 AI051166 AA505378 AI041975 AI335355 AI089540 AA662243 AI127912 AI925604 AI250880 AI366874 AI564386 AI815196 AI683526 AI435885 AI160934 H79030 AI801493 AA448691 AI673767 AI076042 AI804327 AA813438 AA680002 AI274492 T16177 AI287337 AI935050 AA907805 AA911493 AI589411 AI371358 AW576236 AI078866 AW516168 AA346372 AI560185 AA471009 R75857 AA296025 AA523155 AA853168 AI696593 AI658482 AI566601 AW072797 AA128047 AA035502 AW243274 AA992517 R43760
117156	145392_1	W73853 AA928112 W77887 AW889237 AA148524 AI749182 AI754442 AI338392 AI253102 AI079403 AI370541 AI697341 H97538 AW188021 AI927669 W72716 AI051402 AI188071 AI335900 N21488 AW770478 W92522 AI691028 AI913512 AI144448 W73819 AA604358 N28900 W95221 AI868132 H98465 AA148793
125565	1704098_1	R20840 R20839
132983	11922_1	M30269 NM_002508 X82245 AI078760 AW957003 D78945 M27445 AA650439 AL048816 AV660256 AV660347 AA333052 BE295257 T60999 AA383049 AW369677 Z26985 AW175704 AA343326 AW747957 AI818389 W17308 W17302 H15591 AA371284 AA370412 W94966 BE384365 T28498 R80714 R16959 H21723 AW835154 D56097 D56381 W21232 AA190565 AW379755 AW067895
133681	13893_1	AI352558 Z82248 X78138 NM_003405 AU077248 AA223125 S80794 D78577 AI124697 AW403970 BE614089 BE296713 BE621334 L20422 X80536 D54224 D54950 X57345 N29226 AA127798 AA340253 F08031 AA192540 H67636 AA321827 AW950283 AA084159 BE538808 AW401377 AA256774 C03366 W46595 W47608 AA305009 H69431 H69456 AL120082 H11706 AA303717 AA361357 H22042 H78020 AW999584 AA134368 AA322911 AA322961 H60980 N85248 N31547 H79624 T11718 W85826 AW894663 AW894624 BE167441 BE170015 AA304626 AW602163 AW998929 AA156681 AA151067 BE002724 AA608688 H82692 BE155392 AW383636 BE155394 AA487004 AW383504 AI342365 R82553 W16498 BE155344 AI143938 R69901 AA322873 AW340648 R25364 AA367935 AI559406 AA033522 AA374252 AW835019 AI922133 AI697089 N99662 AW189078 AI199076 AW151598 W59944 AA662875 W94022 AA299055 AI039008 AI829449 AA583503 AI635674 AW131665 AI473820 AW273118 AW900930 AA908944 AI688035 AW170272 AI082545 AW468176 AI608761 AI082748 AI911682 AI248943 AI831016 AA192465 AI218477 AA938406 AA385288 AI809817 AA905196 AI191245 AI470204 AI188296 AI421367 AI125315 AI087141 AA629032 AA740589 AI554181 AA150830 AI248541 AI077943 AA775958 AA864930 AI261476 AI123121 AI310394 AA862331 AA872478 BE537084 AI205606 AA720684 AI872093 AW150042 AL120538 AA219627 AA988608 C21397 AI359337 H25337 AI089749 AA605146 AI359620 AA150478 AI359738 AW383642 AW995424 AI766457 R56892 AI089839 W61343 N69107 W46459 AA565955 N20527 AI279782 W46596 AA776573 H23204 AI866231 AI083995 N21530 AA126874 D82630 W65437 AI086917 AW382095 AI086877 H69844 AW340217 W85827 L08439 AA262704 AA505380 W47413 W94135 AA223241 AW089153 AA084101 BE538000 AA096126 T28031 AA491574 R84813 AA774536 AW383522 AA155615 AW383529 AA491520 AW028427 AA171496 AI469689 AW664539 AI811102 AI811116 BE464590 BE350791 H78021 T15405 H21979 AA219489 H13301 AA505883 AI864305 AI423963 AW084401 F04963 R69858 H67097 AI917740 AI655561 H69864 AA033631 AW383484 AI886261 H25293 AA513281 AW271187 H11617 N79982 AI174338 AI904207 AI904208 BE614558 W94127 W65436 AI272249 AA700018 AI579932 AI085941 AW152629
121335	279548_1	AA404418 AI217248
130018	18986_1	AA353093 AW957317 AW872498 AI560785 AI289110 AW135512 X97261 T68873
121822	244391_1	AI743860 N49543 AW027759 BE349467 AI656284 BE463975 R35022 AA370031 AW955302 AL042109 N53092 AI611424 AL079362 AI969290 AI928016 BE394912 BE504220 BE467505 AI611611 AI611407 AI611452 W56437 AI284566 AI583349 AW183058 AI308085 AI074952 AA437315 AA628161 AW301728 AI150224 AA400137 AA437279 AI223355 AA639462 AI261373 AI432414 AI984994 AI539335 AA401550 AA358757 AI609976 AA442357 AA359393 AA437046 AA370301 AA429328 AW272055 AI580502 AI832944 AI038530 AA425107 AI014986 AI148349 AW237721 AW779756 AW137877 AI125293 AA400404 R28554
108309	111495_1	AA069818 AA069971 AA069923 AA069908
107832	genbank_AA021473	AA021473
123523	genbank_AA608588	AA608588
123964	genbank_C13961	C13961
118475	genbank_N66845	N66845
104787	genbank_AA027317	AA027317
106596	304084_1	AI583948 AA578212 AW303715 AA653450 AA456981 AI400385 W88533 AI224133 AW272145 AA088686 R94698
113947	genbank_W84768	W84768
108277	genbank_AA064859	AA064859

108427	genbank_AA076382	AA076382
108439	genbank_AA078986	AA078986
131353	231290_1	AW411259 H23555 AW015049 AI684275 AW015886 AW068953 AW014085 AI027260 R52686 AA918278 AI129462 AA969360 N34869 AI948416 AA534205 AA702483 AA705292
101447	entrez_M21305	M21305
108931	genbank_AA147186	AA147186
108941	genbank_AA148650	AA148650
103138	entrez_X65965	X65965
119174	genbank_R71234	R71234
119416	genbank_T97186	T97186
105985	genbank_AA406610	AA406610
100327	entrez_D55640	D55640

TABLE 3:

Pkey:	Unique Eos probeset identifier number
Accession:	Accession number used for previous patent filings
ExAccn:	Exemplar Accession number, Genbank accession number
UnigeneID:	Unigene number
Unigene Title:	Unigene gene title

Pkey	Accession	ExAccn	UniGene	UnigeneTitle
100405	D86425	AW291587	Hs.82733	nidogen 2
100420	D86983	D86983	Hs.118893	Melanoma associated gene
100481	HG1098-HT1098	X70377	Hs.121489	cystatin D
100484	HG1103-HT1103	NM_005402	Hs.288757	v-ral simian leukemia viral oncogene hom
100718	HG3342-HT3519	BE295928	Hs.75424	inhibitor of DNA binding 1, dominant neg
100991	J03764	J03836	Hs.82085	serine (or cysteine) proteinase inhibito
101097	L06797	BE245301	Hs.89414	chemokine (C-X-C motif), receptor 4 (fus
101168	L15388	NM_005308	Hs.211569	G protein-coupled receptor kinase 5
101194	L20971	L20971	Hs.188	phosphodiesterase 4B, cAMP-specific (dun
101261	L35545	D30857	Hs.82353	protein C receptor, endothelial (EPCR)
101345	L76380	NM_005795	Hs.152175	calcitonin receptor-like
101447	M21305	M21305		gb:Human alpha satellite and satellite 3
101485	M24736	AA296520	Hs.89546	selectin E (endothelial adhesion molecul
101543	M31166	M31166	Hs.2050	pentaxin-related gene, rapidly induced b
101550	M31551	Y00630	Hs.75716	serine (or cysteine) proteinase inhibito
101560	M32334	AW958272	Hs.347326	Intercellular adhesion molecule 2
101674	M61916	NM_002291	Hs.82124	laminin, beta 1
101714	M68874	M68874	Hs.211587	phospholipase A2, group IVA (cytosolic,
101741	M74719	NM_003199	Hs.326198	transcription factor 4
101838	M92934	BE243845	Hs.75511	connective tissue growth factor
101857	M94856	BE550723	Hs.153179	fatty acid binding protein 5 (psoriasis-
102012	U03057	BE259035	Hs.118400	singed (Drosophila)-like (sea urchin fas
102024	U03877	AA301867	Hs.76224	EGF-containing fibulin-like extracellula
102164	U18300	NM_000107	Hs.77602	damage-specific DNA binding protein 2 (4
102241	U27109	NM_007351	Hs.268107	multimerin
102283	U31384	AW161552	Hs.83381	guanine nucleotide binding protein 11
102303	U33053	U33053	Hs.2499	protein kinase C-like 1
102564	U59423	U59423	Hs.79067	MAD (mothers against decapentaplegic, Dr
102663	U70322	NM_002270	Hs.168075	karyopherin (importin) beta 2
102759	U81607	NM_005100	Hs.788	A kinase (PRKA) anchor protein (gravin)
102778	U83463	AF000652	Hs.8180	syndecan binding protein (syntenin)
102804	U89942	NM_002318	Hs.83354	lysyl oxidase-like 2
102887	X04729	J03836	Hs.82085	serine (or cysteine) proteinase inhibito
102898	X06256	NM_002205	Hs.149609	integrin, alpha 5 (fibronectin receptor,
102915	X07820	X07820	Hs.2258	matrix metalloproteinase 10 (stromelysin
103036	X54925	M13509	Hs.83169	matrix metalloproteinase 1 (interstitial
103037	X54936	BE018302	Hs.2894	placental growth factor, vascular endoth
103095	X60957	NM_005424	Hs.78824	tyrosine kinase with immunoglobulin and
103158	X67235	BE242587	Hs.118651	hematopoietically expressed homeobox
103166	X67951	AA159248	Hs.180909	peroxiredoxin 1
103185	X69910	NM_006825	Hs.74368	transmembrane protein (63kD), endoplasmi
103280	X79981	U84722	Hs.76206	cadherin 5, type 2, VE-cadherin (vascula
103554	Z18951	AI878826	Hs.74034	caveolin 1, caveolae protein, 22kD
103850	AA187101	AA187101	Hs.213194	hypothetical protein MGC10895
104465	N24990	Z44203	Hs.26418	ESTs
104592	R81003	AW630488	Hs.25338	protease, serine, 23
104764	AA025351	AI039243	Hs.278585	ESTs
104786	AA027168	AA027167	Hs.10031	KIAA0955 protein
104850	AA040465	AL133035	Hs.8728	hypothetical protein DKFZp434G171
104865	AA045136	T79340	Hs.22575	B-cell CLL/lymphoma 6, member B (zinc fi
104894	AA054087	AF065214	Hs.18858	phospholipase A2, group IVC (cytosolic,
104952	AA071089	AW076098	Hs.345588	desmoplakin (DPI, DPII)
104974	AA085918	Y12059	Hs.278675	bromodomain-containing 4
105178	AA187490	AA313825	Hs.21941	AD036 protein
105263	AA227926	AW388633	Hs.6682	solute carrier family 7, (cationic amino
105330	AA234743	AW338625	Hs.22120	ESTs
105376	AA236559	AW994032	Hs.8768	hypothetical protein FLJ10849
105729	AA292694	H46612	Hs.293815	Homo sapiens HSPC285 mRNA, partial cds
105826	AA398243	AA478756	Hs.194477	E3 ubiquitin ligase SMURF2
105977	AA406363	AK001972	Hs.30822	hypothetical protein FLJ11110
106008	AA411465	AB033888	Hs.8619	SRY (sex determining region Y)-box 18
106031	AA412284	X64116	Hs.171844	Homo sapiens cDNA: FLJ22296 fis, clone H
106124	AA423987	H93366	Hs.7567	Homo sapiens cDNA: FLJ21962 fis, clone H

106155	AA425309	AA425414	Hs.33287	nuclear factor I/B
106302	AA435896	AA398859	Hs.18397	hypothetical protein FLJ23221
106423	AA448238	AB020722	Hs.16714	Rho guanine exchange factor (GEF) 15
106793	AA478778	H94997	Hs.16450	ESTs
107174	AA621714	BE122762	Hs.25338	ESTs
107216	D51069	D51069	Hs.211579	melanoma cell adhesion molecule
107295	T34527	AA186629	Hs.80120	UDP-N-acetyl-alpha-D-galactosamine:polyp
107385	U97519	NM_005397	Hs.16426	podocalyxin-like
108756	AA127221	AA127221	Hs.117037	ESTs
108846	AA132983	AL117452	Hs.44155	DKFZP586G1517 protein
108888	AA135606	AA135606	Hs.189384	gb:zl10a05.s1 Soares_pregnant_uterus_NbH
109001	AA156125	AI056548	Hs.72116	hypothetical protein FLJ20992 similar to
109166	AA179845	AA219691	Hs.73625	RAB6 interacting, kinesin-like (rabkines
109456	AA232645	AW956580	Hs.42699	ESTs
109768	F10399	F06838	Hs.14763	ESTs
110107	H16772	AW151660	Hs.31444	ESTs
110906	N39584	AA035211	Hs.17404	ESTs
110984	N52006	AW613287	Hs.80120	UDP-N-acetyl-alpha-D-galactosamine:polyp
111006	N53375	BE387014	Hs.166146	Homer, neuronal immediate early gene, 3
111018	N54067	AI287912	Hs.3628	mitogen-activated protein kinase kinase
111133	N64436	AW580939	Hs.97199	complement component C1q receptor
111760	R26892	BE551929	Hs.268754	Homo sapiens cDNA FLJ11949 fis, clone HE
113073	T33637	N39342	Hs.103042	microtubule-associated protein 1B
113195	T57112	H83265	Hs.8881	ESTs, Weakly similar to S41044 chromosom
113923	W80763	AW953484	Hs.3849	hypothetical protein FLJ22041 similar to
114521	AA046808	AW139036	Hs.108957	40S ribosomal protein S27 isoform
115061	AA253217	AI751438	Hs.41271	Homo sapiens mRNA full length insert cDN
115096	AA255991	AI683069	Hs.175319	ESTs
115145	AA258138	AA740907	Hs.88297	ESTs
115819	AA426573	AA486620	Hs.41135	endomucin-2
115947	AA443793	R47479	Hs.94761	KIAA1691 protein
116314	AA490588	AI799104	Hs.178705	Homo sapiens cDNA FLJ11333 fis, clone PL
116339	AA496257	AK000290	Hs.44033	dipeptidyl peptidase 8
116430	AA609717	AK001531	Hs.66048	hypothetical protein FLJ10669
116589	D59570	AI557212	Hs.17132	ESTs, Moderately similar to I54374 gene
116733	F13787	AL157424	Hs.61289	synaptojanin 2
117023	H88157	AW070211	Hs.102415	Homo sapiens mRNA; cDNA DKFZp586N0121 (f
117186	H98988	H98988	Hs.42612	ESTs, Weakly similar to ALU1_HUMAN ALU S
117563	N34287	AF055634	Hs.44553	unc5 (C.elegans homolog) c
117997	N52090	N52090	Hs.47420	EST
118475	N66845	N66845		gb:za46c11.s1 Soares fetal liver spleen
118581	N68905	N68905		gb:za69b09.s1 Soares_fetal_lung_NbHL19W
119073	R32894	BE245360	Hs.279477	ESTs
119155	R61715	R61715	Hs.310598	ESTs, Moderately similar to ALU1_HUMAN A
119174	R71234	R71234		gb:yi54c08.s1 Soares placenta Nb2HP Homo
119221	R98105	C14322	Hs.250700	tryptase beta 1
119416	T97186	T97186		gb:ye50h09.s1 Soares fetal liver spleen
119866	W80814	AA496205	Hs.193700	Homo sapiens mRNA; cDNA DKFZp586I0324 (f
121335	AA404418	AA404418		gb:zw37e02.s1 Soares_total_fetus_Nb2HF8_
121381	AA405747	AW088642	Hs.97984	hypothetical protein FLJ22252 similar to
123160	AA488687	AA488687	Hs.284235	ESTs, Weakly similar to I38022 hypotheti
123473	AA599143	AA599143		gb:ae52d04.s1 Stratagene lung carcinoma
123523	AA608588	AA608588		gb:ae54e06.s1 Stratagene lung carcinoma
123533	AA608751	AA608751		gb:ae56h07.s1 Stratagene lung carcinoma
123964	C13961	C13961		gb:C13961 Clontech human aorta polyA+ mR
124006	D60302	AI147155	Hs.270016	ESTs
124315	H94892	NM_005402	Hs.288757	v-ral simian leukemia viral oncogene hom
124659	N93521	AI680737	Hs.289068	Homo sapiens cDNA FLJ11918 fis, clone HE
124669	N95477	AI571594	Hs.102943	hypothetical protein MGC12916
124847	R60044	W07701	Hs.304177	Homo sapiens clone FLB8503 PRO2286 mRNA,
124875	R70506	AI887664	Hs.285814	sprouty (Drosophila) homolog 4
125091	T91518	T91518		gb:ye20f05.s1 Stratagene lung (937210) H
125103	T95333	AA570056	Hs.122730	ESTs, Moderately similar to KIAA1215 pro
125355	R45630	R60547	Hs.170098	KIAA0372 gene product
125565	R20839	R20840		gb:yg05c08.r1 Soares infant brain 1NIB H
125590	R23858	R23858	Hs.143375	Homo sapiens, clone IMAGE:3840937, mRNA,
126511	AI024874	T92143	Hs.57958	EGF-TM7-latrophilin-related protein
126563	W26247	AA516391	Hs.181368	U5 snRNP-specific protein (220 kD), orth
126649	AA856990	AA001860	Hs.279531	ESTs
126872	AA136653	AW450979		gb:UI-H-BI3-ala-a-12-0-UI.s1 NCI_CGAP_Su
127402	AA358869	AA358869	Hs.227949	SEC13 (S. cerevisiae)-like 1
127651	AI123976	AA382523	Hs.105689	MSTP031 protein
127759	AI369384	AI369384	Hs.292441	ESTs
128062	AA379500	AA379621	Hs.105547	neural proliferation, differentiation an
128992	R49693	H04150	Hs.107708	ESTs
129046	AA195678	AB029290	Hs.108258	actin binding protein; macrophin (microf

129188	M30257	NM_001078	Hs.109225	vascular cell adhesion molecule 1
129314	AA028131	BE622768	Hs.290356	mesoderm development candidate 1
129371	M10321	X06828	Hs.110802	von Willebrand factor
129468	J03040	AW410538	Hs.111779	secreted protein, acidic, cysteine-rich
129765	M86933	M86933	Hs.1238	amelogenin (Y chromosome)
129805	AA012933	AA012848	Hs.12570	tubulin-specific chaperone d
129884	AA286710	AF055581	Hs.13131	lysosomal
130495	AA243278	AW250380	Hs.109059	mitochondrial ribosomal protein L12
130639	D59711	AI557212	Hs.17132	ESTs, Moderately similar to I54374 gene
130657	T94452	AW337575	Hs.201591	ESTs
130828	AA053400	AW631469	Hs.203213	ESTs
130972	AA370302	D81866	Hs.21739	Homo sapiens mRNA; cDNA DKFZp586I1518 (f
131080	J05008	NM_001955	Hs.2271	endothelin 1
131137	U85193	W27392	Hs.33287	nuclear factor I/B
131182	AA256153	AI824144	Hs.23912	ESTs
131486	X83107	F06972	Hs.27372	BMX non-receptor tyrosine kinase
131573	AA046593	AA040311	Hs.28959	ESTs
131647	AA410480	AA359615	Hs.30089	ESTs
131756	D45304	AA443966	Hs.31595	ESTs
131859	M90657	AW960564		transmembrane 4 superfamily member 1
131881	AA010163	AW361018	Hs.3383	upstream regulatory element binding prot
132050	AA136353	AI267615	Hs.38022	ESTs
132083	Y07867	BE386490	Hs.279663	Pirin
132164	U84573	AI752235	Hs.41270	procollagen-lysine, 2-oxoglutarate 5-dio
132358	X60486	NM_003542	Hs.46423	H4 histone family, member G
132413	AA132969	AW361383	Hs.260116	metalloprotease 1 (pitrilysin family)
132456	AA114250	AB011084	Hs.48924	KIAA0512 gene product; ALEX2
132490	F13782	NM_001290	Hs.4980	LIM domain binding 2
132676	AA283035	N92589	Hs.261038	ESTs, Weakly similar to I38022 hypotheti
132687	AB002301	AB002301	Hs.54985	KIAA0303 protein
132718	AA056731	NM_004600	Hs.554	Sjogren syndrome antigen A2 (60kD, ribon
132736	U68019	AW081883	Hs.211578	Homo sapiens cDNA: FLJ23037 fis, clone L
132760	H99198	AA125985	Hs.56145	thymosin, beta, identified in neuroblast
132933	AA598702	BE263252	Hs.6101	hypothetical protein MGC3178
132968	N77151	AF234532	Hs.61638	myosin X
132994	AA505133	AA112748	Hs.279905	clone HQ0310 PRO0310p1
133061	AB000584	AI186431	Hs.296638	prostate differentiation factor
133147	D12763	AA026533	Hs.66	interleukin 1 receptor-like 1
133161	AA253193	AW021103	Hs.6631	hypothetical protein FLJ20373
133200	AA432248	AB037715	Hs.183639	hypothetical protein FLJ10210
133260	AA083572	AA403045	Hs.6906	Homo sapiens cDNA: FLJ23197 fis, clone R
133363	AA479713	AI866286	Hs.71962	ESTs, Weakly similar to B36298 proline-r
133491	L40395	BE619053	Hs.170001	eukaryotic translation initiation factor
133517	X52947	NM_000165	Hs.74471	gap junction protein, alpha 1, 43kD (con
133550	W80846	AI129903	Hs.74669	vesicle-associated membrane protein 5 (m
133607	M34539	BE273749		FK506-binding protein 1A (12kD)
133614	D67029	NM_003003	Hs.75232	SEC14 (S. cerevisiae)-like 1
133627	U09587	NM_002047	Hs.75280	glycyl-tRNA synthetase
133691	M85289	M85289	Hs.211573	heparan sulfate proteoglycan 2 (perlecan
133696	D10522	AI878921	Hs.75607	myristoylated alanine-rich protein kinas
133913	W84712	AU076964	Hs.7753	calumenin
133975	D29992	C18356	Hs.295944	tissue factor pathway inhibitor 2
133985	L34657	L34657	Hs.78146	platelet/endothelial cell adhesion molec
134039	S78569	NM_002290	Hs.78672	laminin, alpha 4
134088	D43636	AI379954	Hs.79025	KIAA0096 protein
134161	U97188	AA634543	Hs.79440	IGF-II mRNA-binding protein 3
134299	AA487558	AW580939	Hs.97199	complement component C1q receptor
134416	M28882	X68264	Hs.211579	melanoma cell adhesion molecule
134453	X70683	AI272141	Hs.83484	SRY (sex determining region Y)-box 4
134656	X14787	AI750878	Hs.87409	thrombospondin 1
134989	AA236324	AW968058	Hs.92381	nudix (nucleoside diphosphate linked moi
135051	C15324	AI272141	Hs.83484	SRY (sex determining region Y)-box 4
135073	AA452000	W55956	Hs.94030	Homo sapiens mRNA; cDNA DKFZp586E1624 (f
135349	D83174	AA114212	Hs.9930	serine (or cysteine) proteinase inhibito
100114	D00596	X02308	Hs.82962	thymidylate synthetase
100130	D11428	NM_000304	Hs.103724	peripheral myelin protein 22
100143	D13640	AU076465	Hs.278441	KIAA0015 gene product
100168	D14874	H73444	Hs.394	adrenomedullin
100208	D26129	NM_002933	Hs.78224	ribonuclease, RNase A family, 1 (pancrea
100224	D28476	AL121516	Hs.138617	thyroid hormone receptor interactor 12
100405	D86425	AW291587	Hs.82733	nidogen 2
100420	D86983	D86983	Hs.118893	Melanoma associated gene
100455	D87953	AW888941	Hs.75789	N-myc downstream regulated
100529	HG1862-HT1897	BE313693	Hs.334330	calmodulin 2 (phosphorylase kinase, delt
100618	HG2614-HT2710	AI752163	Hs.114599	collagen, type VIII, alpha 1
100619	HG2639-HT2735	N24433	Hs.241567	RNA binding motif, single stranded inter

100658	HG2855-HT2995	U56725	Hs.180414	heat shock 70kD protein 2
100676	HG3044-HT3742	X02761	Hs.287820	fibronectin 1
100718	HG3342-HT3519	BE295928	Hs.75424	inhibitor of DNA binding 1, dominant neg
100752	HG3543-HT3739	T81309		insulin-like growth factor 2 (somatomedi
100828	HG4069-HT4339	AL048753	Hs.303649	small inducible cytokine A2 (monocyte ch
100850	HG417-HT417	AA836472	Hs.297939	cathepsin B
100991	J03764	J03836	Hs.82085	serine (or cysteine) proteinase inhibito
101097	L06797	BE245301	Hs.89414	chemokine (C-X-C motif), receptor 4 (fus
101110	L08246	AI439011	Hs.86386	myeloid cell leukemia sequence 1 (BCL2-r
101142	L12711	L12711	Hs.89643	transketolase (Wemicke-Korsakoff syndro
101156	L13977	AA340987	Hs.75693	prolylcarboxypeptidase (angiotensinase C
101168	L15388	NM_005308	Hs.211569	G protein-coupled receptor kinase 5
101184	L19871	NM_001674	Hs.460	activating transcription factor 3
101192	L20859	BE247295	Hs.78452	solute carrier family 20 (phosphate tran
101317	L42176	L42176	Hs.8302	four and a half LIM domains 2
101336	L49169	NM_006732	Hs.75678	FBJ murine osteosarcoma viral oncogene h
101345	L76380	NM_005795	Hs.152175	calcitonin receptor-like
101400	M15990	M15990	Hs.194148	v-yes-1 Yamaguchi sarcoma viral oncogene
101475	M23254	BE410405	Hs.76288	calpain 2, (m/II) large subunit
101485	M24736	AA296520	Hs.89546	selectin E (endothelial adhesion molecul
101496	M26576	X12784	Hs.119129	collagen, type IV, alpha 1
101505	M27396	AA307680	Hs.75692	asparagine synthetase
101543	M31166	M31166	Hs.2050	pentaxin-related gene, rapidly induced b
101557	M31994	BE293116	Hs.76392	aldehyde dehydrogenase 1 family, member
101560	M32334	AW958272	Hs.347326	intercellular adhesion molecule 2
101587	M35878	AI752416	Hs.77326	insulin-like growth factor binding prote
101592	M36429	AF064853	Hs.91299	guanine nucleotide binding protein (G pr
101633	M57730	NM_004428	Hs.1624	ephrin-A1
101634	M57731	AV650262	Hs.75765	GRO2 oncogene
101667	M60858	NM_005381		nucleolin
101682	M62994	AF043045	Hs.81008	filamin B, beta (actin-binding protein-2
101714	M68874	M68874	Hs.211587	phospholipase A2, group IVA (cytosolic,
101720	M69043	M69043	Hs.81328	nuclear factor of kappa light polypeptid
101741	M74719	NM_003199	Hs.326198	transcription factor 4
101744	M75126	AI879352	Hs.118625	hexokinase 1
101793	M84349	W01076	Hs.278573	CD59 antigen p18-20 (antigen identified
101837	M92843	M92843	Hs.343586	zinc finger protein homologous to Zfp-36
101838	M92934	BE243845	Hs.75511	connective tissue growth factor
101840	M93056	AA236291	Hs.183583	serine (or cysteine) proteinase inhibito
101857	M94856	BE550723	Hs.153179	fatty acid binding protein 5 (psoriasis-
101864	M95787	BE392588	Hs.75777	transgelin
101931	S76965	NM_006823	Hs.75209	protein kinase (cAMP-dependent, catalyti
101966	S81914	X96438	Hs.76095	immediate early response 3
102012	U03057	BE259035	Hs.118400	singed (Drosophila)-like (sea urchin fas
102013	U03100	BE616287	Hs.178452	catenin (cadherin-associated protein), a
102024	U03877	AA301867	Hs.76224	EGF-containing fibulin-like extracellula
102059	U08021	AI752666	Hs.76669	nicotinamide N-methyltransferase
102121	U14391	NM_004998	Hs.82251	myosin IE
102283	U31384	AW161552	Hs.83381	guanine nucleotide binding protein 11
102300	U32944	AI929721	Hs.5120	dynein, cytoplasmic, light polypeptide
102378	U40369	AU076887	Hs.28491	spermidine/spermine N1-acetyltransferase
102395	U41767	AU077005	Hs.92208	a disintegrin and metalloproteinase doma
102460	U48959	U48959	Hs.211582	myosin, light polypeptide kinase
102491	U51010	U51010		gb:Human nicotinamide N-methyltransferas
102499	U51478	BE243877	Hs.76941	ATPase, Na+/K+ transporting, beta 3 poly
102523	U53445	U53445	Hs.15432	downregulated in ovarian cancer 1
102560	U59289	R97457	Hs.63984	cadherin 13, H-cadherin (heart)
102564	U59423	U59423	Hs.79067	MAD (mothers against decapentaplegic, Dr
102589	U62015	AU076728	Hs.8867	cysteine-rich, angiogenic inducer, 61
102600	U63825	AI984144	Hs.66713	hepatitis delta antigen-interacting prot
102645	U67963	AL119566	Hs.6721	lysosomal
102687	U73379	NM_007019	Hs.93002	ubiquitin carrier protein E2-C
102693	U73824	AA532780	Hs.183684	eukaryotic translation initiation factor
102709	U77604	AA122237	Hs.81874	microsomal glutathione S-transferase 2
102759	U81607	NM_005100	Hs.788	A kinase (PRKA) anchor protein (gravin)
102804	U89942	NM_002318	Hs.83354	lysyl oxidase-like 2
102882	X04412	AI767736	Hs.290070	gelsolin (amyloidosis, Finnish type)
102907	X06985	BE409861	Hs.202833	heme oxygenase (decycling) 1
102915	X07820	X07820	Hs.2258	matrix metalloproteinase 10 (stromelysin
102927	X12876	BE512730	Hs.65114	keratin 18
102960	X15729	AI904738	Hs.76053	DEAD/H (Asp-Glu-Ala-Asp/His) box polypep
103011	X52541	AJ243425	Hs.326035	early growth response 1
103020	X53416	X53416	Hs.195464	filamin A, alpha (actin-binding protein-
103029	X54489	AW800726	Hs.789	GRO1 oncogene (melanoma growth stimulati
103036	X54925	M13509	Hs.83169	matrix metalloproteinase 1 (interstitial
103056	X57206	Y18024	Hs.78877	inositol 1,4,5-trisphosphate 3-kinase B

103080	X59798	AU077231	Hs.82932	cyclin D1 (PRAD1: parathyroid adenomatos
103095	X60957	NM_005424	Hs.78824	tyrosine kinase with immunoglobulin and
103138	X65965	X65965		gb:H.sapiens SOD-2 gene for manganese su
103176	X69111	AL021154	Hs.76884	inhibitor of DNA binding 3, dominant neg
103195	X70940	AA351647	Hs.2642	eukaryotic translation elongation factor
103347	X87838	AU077309	Hs.171271	catenin (cadherin-associated protein), b
103371	X91247	X91247	Hs.13046	thioredoxin reductase 1
103432	X97748	X97748		gb:H.sapiens PTX3 gene promotor region.
103471	Y00815	Y00815	Hs.75216	protein tyrosine phosphatase, receptor t
103967	AA303711	AL120051	Hs.144700	ephrin-B1
104447	L44538	AW204145	Hs.156044	ESTs
104764	AA025351	AI039243	Hs.278585	ESTs
104783	AA027050	AA533513	Hs.93659	protein disulfide isomerase related prot
104798	AA029462	AW952619	Hs.17235	Homo sapiens clone TCCCIA00176 mRNA sequ
104865	AA045136	T79340	Hs.22575	B-cell CLL/lymphoma 6, member B (zinc fi
104877	AA047437	AI138635	Hs.22968	Homo sapiens clone IMAGE:451939, mRNA se
104894	AA054087	AF065214	Hs.18858	phospholipase A2, group IVC (cytosolic,
104952	AA071089	AW076098	Hs.345588	desmoplakin (DPI, DPII)
105113	AA156450	AB037816	Hs.8982	Homo sapiens, clone IMAGE:3506202, mRNA,
105178	AA187490	AA313825	Hs.21941	AD036 protein
105196	AA195031	W84893	Hs.9305	angiotensin receptor-like 1
105215	AA205724	AA205759	Hs.10119	hypothetical protein FLJ14957
105263	AA227926	AW388633	Hs.6682	solute carrier family 7, (cationic amino
105271	AA227986	AA807881	Hs.25329	ESTs
105330	AA234743	AW338625	Hs.22120	ESTs
105461	AA253216	BE539071	Hs.69388	hypothetical protein FLJ20505
105492	AA256210	AI805717	Hs.289112	CGI-43 protein
105493	AA256268	AL047586	Hs.10283	RNA binding motif protein 8B
105594	AA279397	AB024334	Hs.25001	tyrosine 3-monooxygenase/tryptophan 5-mo
105727	AA292379	AL135159	Hs.20340	KIAA1002 protein
105732	AA292717	AW504170	Hs.274344	hypothetical protein MGC12942
105767	AA346551	AW370946	Hs.23457	ESTs
105882	AA400292	W46802	Hs.81988	disabled (Drosophila) homolog 2 (mitogen
105936	AA404338	AI678765	Hs.21812	ESTs
106031	AA412284	X64116	Hs.171844	Homo sapiens cDNA: FLJ22296 fis, clone H
106124	AA423987	H93366	Hs.7567	Homo sapiens cDNA: FLJ21962 fis, clone H
106222	AA428594	AA356392	Hs.21321	Homo sapiens clone FLB9213 PRO2474 mRNA,
106241	AA430108	BE019681	Hs.6019	Homo sapiens cDNA: FLJ21288 fis, clone C
106263	AA431462	W21493	Hs.28329	hypothetical protein FLJ14005
106264	AA431470	AL046859	Hs.3407	protein kinase (cAMP-dependent, catalyti
106366	AA443756	AA186715	Hs.336429	RIKEN cDNA 9130422N19 gene
106454	AA449479	NM_014038	Hs.5216	HSPC028 protein
106634	AA459916	W25491	Hs.288909	hypothetical protein FLJ22471
106724	AA465226	N48670	Hs.28631	Homo sapiens cDNA: FLJ22141 fis, clone H
106793	AA478778	H94997	Hs.16450	ESTs
106799	AA479037	BE313412	Hs.7961	Homo sapiens clone 25012 mRNA sequence
106842	AA482597	AF124251	Hs.26054	novel SH2-containing protein 3
106868	AA487561	BE185536	Hs.301183	molecule possessing ankyrin repeats indu
106890	AA489245	AA489245	Hs.88500	mitogen-activated protein kinase 8 inter
106961	AA504110	AW243614	Hs.18063	Homo sapiens cDNA FLJ10768 fis, clone NT
106974	AA520989	AI817130	Hs.9195	Homo sapiens cDNA FLJ13698 fis, clone PL
107030	AA599434	AL117424	Hs.25035	chloride intracellular channel 4
107061	AA608649	BE147611	Hs.6354	stromal cell derived factor receptor 1
107086	AA609519	NM_012331	Hs.26458	methionine sulfoxide reductase A
107216	D51069	D51069	Hs.211579	melanoma cell adhesion molecule
107385	U97519	NM_005397	Hs.16426	podocalyxin-like
107444	W28391	W28391	Hs.343258	proliferation-associated 2G4, 38kD
107985	AA035638	T40064	Hs.71968	Homo sapiens mRNA; cDNA DKFZp564F053 (fr
108507	AA083514	AI554545	Hs.68301	ESTs
108695	AA121315	AB029000	Hs.70823	KIAA1077 protein
108931	AA147186	AA147186		gb:zo38d01.s1 Stratagene endothelial cel
109001	AA156125	AI056548	Hs.72116	hypothetical protein FLJ20992 similar to
109195	AA188932	AF047033	Hs.132904	solute carrier family 4, sodium bicarbon
109390	AA219653	AW007485	Hs.87125	EH-domain containing 3
109456	AA232645	AW956580	Hs.42699	ESTs
109737	F10078	AA055415	Hs.13233	ESTs, Moderately similar to A47582 B-cel
110411	H48032	AW001579	Hs.9645	Homo sapiens mRNA for KIAA1741 protein,
110660	H82117	AA782114	Hs.28043	ESTs
110906	N39584	AA035211	Hs.17404	ESTs
111018	N54067	AI287912	Hs.3628	mitogen-activated protein kinase kinase
111091	N59858	AA300067	Hs.33032	hypothetical protein DKFZp434N185
111356	N90933	BE301871	Hs.4867	mannosyl (alpha-1,3-)-glycoprotein beta-
111378	N93764	AW160993	Hs.326292	hypothetical gene DKFZp434A1114
111741	R26124	AB020653	Hs.24024	KIAA0846 protein
111769	R27957	AW629414	Hs.24230	ESTs
112318	R55470	AW083384	Hs.11067	ESTs, Highly similar to T46395 hypotheti

112951	T16550	AA307634	Hs.6650	vacuolar protein sorting 45B (yeast homo
113057	T26674	AW194301	Hs.339283	Human DNA sequence from clone RP1-187J11
113195	T57112	H83265	Hs.8881	ESTs, Weakly similar to S41044 chromosom
113490	T88700	BE178110	Hs.173374	Homo sapiens cDNA FLJ10500 fis, clone NT
113542	T90527	H43374	Hs.7890	Homo sapiens mRNA for KIAA1671 protein,
113803	W42789	AW880709	Hs.283683	chromosome 8 open reading frame 4
113847	W60002	NM_005032	Hs.4114	plastin 3 (T isoform)
113910	W78175	AA113262	Hs.17901	Homo sapiens, clone IMAGE:3937015, mRNA,
113947	W84768	W84768		gb:zh53d03.s1 Soares_fetal_liver_spleen_
114047	W94427	AL035858	Hs.3807	FXYD domain-containing ion transport reg
115061	AA253217	AI751438	Hs.41271	Homo sapiens mRNA full length insert cDN
115819	AA426573	AA486620	Hs.41135	endomucin-2
115870	AA432374	NM_005985	Hs.48029	snail 1 (drosophila homolog), zinc finge
115964	AA446622	AA987568	Hs.74313	KIAA1265 protein
116228	AA478771	AI767947	Hs.50841	ESTs
116264	AA482594	D51174	Hs.272239	lysosomal
116314	AA490588	AI799104	Hs.178705	Homo sapiens cDNA FLJ11333 fis, clone PL
116589	D59570	AI557212	Hs.17132	ESTs, Moderately similar to I54374 gene
117023	H88157	AW070211	Hs.102415	Homo sapiens mRNA; cDNA DKFZp586N0121 (f
117112	H94648	AW969999	Hs.293658	ESTs
117156	H97538	W73853		ESTs
117176	H98670	H45100	Hs.49753	uveal autoantigen with coiled coil domai
117280	N22107	M18217	Hs.172129	Homo sapiens cDNA: FLJ21409 fis, clone C
119559	W38197	W38197		Empirically selected from AFFX single pr
119866	W80814	AA496205	Hs.193700	Homo sapiens mRNA; cDNA DKFZp586I0324 (f
120655	AA287347	AA305599	Hs.238205	hypothetical protein PRO2013
121314	AA402799	W07343	Hs.182538	phospholipid scramblase 4
121335	AA404418	AA404418		gb:zw37e02.s1 Soares_total_fetus_Nb2HF8_
121822	AA425107	AI743860		metallothionein 1E (functional)
121835	AA425435	AB033030	Hs.300670	KIAA1204 protein
122331	AA442872	AL133437	Hs.110771	Homo sapiens cDNA: FLJ21904 fis, clone H
122577	AA452860	AA829725	Hs.334437	hypothetical protein MGC4248
123160	AA488687	AA488687	Hs.284235	ESTs, Weakly similar to I38022 hypotheti
123486	AA599674	BE019072	Hs.334802	Homo sapiens cDNA FLJ14680 fis, clone NT
124059	F13673	BE387335	Hs.283713	ESTs, Weakly similar to S64054 hypotheti
124339	H99093	H99093	Hs.343411	DEAD/H (Asp-Glu-Ala-Asp/His) box polypep
124358	N22495	AW070211	Hs.102415	Homo sapiens mRNA; cDNA DKFZp586N0121 (f
124364	N23031	AF265555	Hs.250646	baculoviral IAP repeat-containing 6
124726	R15740	NM_003654	Hs.104576	carbohydrate (keratan sulfate Gal-6) sul
124763	R39610	BE410405	Hs.76288	calpain 2, (m/II) large subunit
125167	W45560	AL137540	Hs.102541	netrin 4
125304	Z39833	AL359573	Hs.124940	GTP-binding protein
125307	Z40583	AW580945	Hs.330466	ESTs
125329	AA825437	AA825437	Hs.58875	ESTs
125598	R66613	T40064	Hs.71968	Homo sapiens mRNA; cDNA DKFZp564F053 (fr
125609	AA868063	AA868063	Hs.104576	carbohydrate (keratan sulfate Gal-6) sul
418245	AA128075	AA088767	Hs.83883	transmembrane, prostate androgen induced
127435	N66570	X69086	Hs.286161	Homo sapiens cDNA FLJ13613 fis, clone PL
127566	AI051390	AI051390	Hs.116731	ESTs
127619	AA627122	AA627122	Hs.163787	ESTs
128453	X02761	X02761	Hs.287820	fibronectin 1
128495	AF010193	NM_005904	Hs.100602	MAD (mothers against decapentaplegic, Dr
128515	AA149044	BE395085	Hs.10086	type I transmembrane protein Fn14
128580	U82108	U82108	Hs.101813	solute carrier family 9 (sodium/hydrogen
128623	D78676	BE076608	Hs.105509	CTL2 gene
128642	L35240	Z28913	Hs.102948	enigma (LIM domain protein)
128669	AA598737	W28493	Hs.180414	heat shock 70kD protein 8
128903	R69417	AW150717	Hs.345728	STAT induced STAT inhibitor 3
128914	AA232837	AW867491	Hs.107125	plasmalemma vesicle associated protein
129087	N72695	AI348027	Hs.108557	hypothetical protein PP1057
129188	M30257	NM_001078	Hs.109225	vascular cell adhesion molecule 1
129226	M96843	BE222494	Hs.180919	inhibitor of DNA binding 2, dominant neg
129265	X68277	AA530892	Hs.171695	dual specificity phosphatase 1
129345	AA292440	R22497	Hs.110571	growth arrest and DNA-damage-inducible,
129468	J03040	AW410538	Hs.111779	secreted protein, acidic, cysteine-rich
129488	AA228107	AW966728	Hs.54642	methionine adenosyltransferase II, beta
129498	AA449789	AA449789	Hs.75511	connective tissue growth factor
129557	W01367	AL045404	Hs.46366	KIAA0948 protein
129619	AA610116	AA209534	Hs.284243	tetraspan NET-6 protein
129627	AA258308	T40064	Hs.71968	Homo sapiens mRNA; cDNA DKFZp564F053 (fr
129762	AA460273	AA453694	Hs.12372	tripartite motif protein TRIM2
129884	AA286710	AF055581	Hs.13131	lysosomal
130018	T68873	AA353093		metallothionein 1L
130147	D63476	D63476	Hs.172813	PAK-interacting exchange factor beta
130178	M62403	U20982	Hs.1516	insulin-like growth factor-binding prote
130282	X55740	BE245380	Hs.153952	5' nucleotidase (CD73)

130431	L10284	AW505214	Hs.155560	calnexin
130495	AA243278	AW250380	Hs.109059	mitochondrial ribosomal protein L12
130553	AA430032	AF062649	Hs.252587	pituitary tumor-transforming 1
130638	H16402	AW021276	Hs.17121	ESTs
130639	D59711	AI557212	Hs.17132	ESTs, Moderately similar to I54374 gene
130657	T94452	AW337575	Hs.201591	ESTs
130686	AA431571	BE548267	Hs.337986	Homo sapiens cDNA FLJ10934 fis, clone OV
130776	R79356	AF167706	Hs.19280	cysteine-rich motor neuron 1
130818	AA280375	AW190920	Hs.19928	*hypothetical protein SP329*
130840	Z49269	BE048821	Hs.20144	small inducible cytokine subfamily A (Cy
130899	Z41740	AI077288	Hs.296323	serum/glucocorticoid regulated kinase
131002	AA121543	AL050295	Hs.22039	KIAA0758 protein
131080	J05008	NM_001955	Hs.2271	endothelin 1
131084	AA101878	NM_017413	Hs.303084	apelin; peptide ligand for APJ receptor
131091	T35341	AJ271216	Hs.22880	dipeptidylpeptidase III
131107	N87590	BE620886	Hs.75354	GCN1 (general control of amino-acid synt
131182	AA256153	AI824144	Hs.23912	ESTs
131207	W74533	AF104266	Hs.24212	latrophilin
131319	U25997	NM_003155	Hs.25590	stanniocalcin 1
131328	V01512	AW939251	Hs.25647	v-fos FBJ murine osteosarcoma viral onco
131328	V01512	AW939251	Hs.25647	v-fos FBJ murine osteosarcoma viral onco
131328	V01512	AW939251	Hs.25647	v-fos FBJ murine osteosarcoma viral onco
131328	V01512	AW939251	Hs.25647	v-fos FBJ murine osteosarcoma viral onco
131509	X56681	X56681	Hs.2780	jun D proto-oncogene
131555	AA161292	T47364	Hs.278613	*Interferon, alpha-inducible protein 27*
131564	AA491465	T93500	Hs.28792	Homo sapiens cDNA FLJ11041 fis, clone PL
131573	AA046593	AA040311	Hs.28959	ESTs
131692	D50914	BE559681	Hs.30736	KIAA0124 protein
131756	D45304	AA443966	Hs.31595	ESTs
131859	M90657	AW960564		transmembrane 4 superfamily member 1
131909	W69127	NM_016558	Hs.274411	SCAN domain-containing 1
131915	AA316186	AI161383	Hs.34549	ESTs, Highly similar to S94541 1 clone 4
132046	AA384503	AI359214	Hs.179260	chromosome 14 open reading frame 4
132050	AA136353	AI267615	Hs.38022	ESTs
132151	AA044755	BE379499	Hs.173705	Homo sapiens cDNA: FLJ22050 fis, clone H
132164	U84573	AI752235	Hs.41270	procollagen-lysine, 2-oxoglutarate 5-dio
132187	AA058911	AA235709	Hs.4193	DKFZP586O1624 protein
132303	AA620962	BE177330	Hs.325093	Homo sapiens cDNA: FLJ21210 fis, clone C
132314	AA285290	AF112222	Hs.323806	pinin, desmosome associated protein
132358	X60486	NM_003542	Hs.46423	H4 histone family, member G
132398	R31641	AA876616	Hs.16979	ESTs, Weakly similar to A43932 mucin 2 p
132421	AA489190	AW163483	Hs.48320	double ring-finger protein, Dorfin
132490	F13782	NM_001290	Hs.4980	LIM domain binding 2
132520	AA257993	AA257992	Hs.50651	Janus kinase 1 (a protein tyrosine kinas
132546	M24283	M24283	Hs.168383	intercellular adhesion molecule 1 (CD54)
132610	AA443114	AA160511	Hs.5326	amino acid system N transporter 2; porcu
132716	T35289	BE379595	Hs.283738	casein kinase 1, alpha 1
132840	N23817	BE218319	Hs.5807	GTPase Rab14
132883	AA047151	AA373314	Hs.5897	Homo sapiens mRNA; cDNA DKFZp586P1622 (f
132968	N77151	AF234532	Hs.61638	myosin X
132989	AA480074	AA480074	Hs.331328	hypothetical protein FLJ13213
132999	Y00787	Y00787	Hs.624	Interleukin 8
133071	T99789	BE384932	Hs.64313	ESTs, Weakly similar to AF257182 1 G-pro
133076	W84341	AW946276	Hs.6441	Homo sapiens mRNA; cDNA DKFZp586J021 (fr
133099	L09209	W16518	Hs.279518	amyloid beta (A4) precursor-like protein
133147	D12763	AA026533	Hs.66	Interleukin 1 receptor-like 1
133149	T16484	AA370045	Hs.6607	AXIN1 up-regulated
133161	AA253193	AW021103	Hs.6631	hypothetical protein FLJ20373
133200	AA432248	AB037715	Hs.183639	hypothetical protein FLJ10210
133220	X82200	NM_006074	Hs.318501	Homo sapiens mRNA full length insert cDN
133260	AA083572	AA403045	Hs.6906	Homo sapiens cDNA: FLJ23197 fis, clone R
133295	L00352	AI147861	Hs.213289	low density lipoprotein receptor (famili
133349	N75791	AW631255	Hs.8110	L-3-hydroxyacyl-Coenzyme A dehydrogenase
133391	X57579	AW103364	Hs.727	Inhibin, beta A (activin A, activin AB a
133398	X02612	NM_000499	Hs.72912	cytochrome P450, subfamily I (aromatic c
133436	H44631	BE294068	Hs.737	immediate early protein
133454	AA090257	BE547647	Hs.177781	hypothetical protein MGC5618
133478	X83703	X83703	Hs.31432	cardiac ankyrin repeat protein
133491	L40395	BE619053	Hs.170001	eukaryotic translation initiation factor
133510	AA227913	AW880841	Hs.96908	p53-induced protein
133517	X52947	NM_000165	Hs.74471	gap junction protein, alpha 1, 43kD (con
133526	M11313	AU077051	Hs.74561	alpha-2-macroglobulin
133538	L14837	NM_003257	Hs.74614	tight junction protein 1 (zona occludens
133562	M60721	*M60721*	Hs.74870	H2.0 *(Drosophila)-like homeo box 1*
133584	D90209	D90209	Hs.181243	activating transcription factor 4 (tax-r
133590	T67986	T70956	Hs.75106	clusterin (complement lysis inhibitor, S

133617	AA148318	BE244334	Hs.75249	ADP-ribosylation factor-like 6 interacti
133651	U97105	AI301740	Hs.173381	dihydropyrimidinase-like 2
133671	T25747	AW503116	Hs.301819	zinc finger protein 146
133678	K02574	AW247252		nucleoside phosphorylase
133681	D78577	AI352558		tyrosine 3-monooxygenase/tryptophan 5-mo
133722	X53331	AW969976	Hs.279009	matrix Gla protein
133730	S73591	BE242779	Hs.179526	upregulated by 1,25-dihydroxyvitamin D-3
133750	X95735	BE410769	Hs.75873	zyxin
133802	L16862	AW239400	Hs.76297	G protein-coupled receptor kinase 6
133825	U44975	BE616902	Hs.285313	core promoter element binding protein
133838	M97796	BE222494	Hs.180919	inhibitor of DNA binding 2, dominant neg
133859	U86782	U86782	Hs.178761	26S proteasome-associated pad1 homolog
133889	AA099391	U48959	Hs.211582	myosin, light polypeptide kinase
133960	M19267	M19267	Hs.77899	tropomyosin 1 (alpha)
133975	D29992	C18356	Hs.295944	tissue factor pathway inhibitor 2
133977	L19314	AI125639	Hs.250666	hairy (Drosophila)-homolog
134039	S78569	NM_002290	Hs.78672	laminin, alpha 4
134075	U28811	NM_012201	Hs.78979	Golgi apparatus protein 1
134081	L77886	AL034349	Hs.79005	protein tyrosine phosphatase, receptor t
134164	C14407	AW245540	Hs.79516	brain abundant, membrane attached signal
134203	M60278	AA161219	Hs.799	diphtheria toxin receptor (heparin-bindi
134238	R81509	AA102179	Hs.160726	Homo sapiens cDNA FLJ11680 fis, clone HE
134299	AA487558	AW580939	Hs.97199	complement component C1q receptor
134332	D86962	D86962	Hs.81875	growth factor receptor-bound protein 10
134339	AA478971	R70429	Hs.81988	disabled (Drosophila) homolog 2 (mitogen
134343	D50683	D50683	Hs.82028	transforming growth factor, beta recepto
134381	U56637	AI557280	Hs.184270	capping protein (actin filament) muscle
134403	M61199	AA334551		sperm specific antigen 2
134416	M28882	X68264	Hs.211579	melanoma cell adhesion molecule
134493	X15183	M30627	Hs.289088	heat shock 90kD protein 1, alpha
134558	S53911	NM_001773	Hs.85289	CD34 antigen
134817	U20734	AU076592	Hs.198951	jun B proto-oncogene
134983	D28235	D28235	Hs.196384	prostaglandin-endoperoxide synthase 2 (p
134989	AA236324	AW968058	Hs.92381	nudix (nucleoside diphosphate linked moi
135052	AA148923	AL136653	Hs.93675	decidual protein induced by progesterone
135062	AA174183	AK000967	Hs.93872	KIAA1682 protein
135069	AA456311	AA876372	Hs.93961	Homo sapiens mRNA; cDNA DKFZp667D095 (fr
135071	L08069	W27190	Hs.94	DnaJ (Hsp40) homolog, subfamily A, membe
135073	AA452000	W55956	Hs.94030	Homo sapiens mRNA; cDNA DKFZp586E1624 (f
135170	AA282140	T53169	Hs.9587	Homo sapiens cDNA: FLJ22290 fis, clone H
135196	J02854	C03577	Hs.9615	myosin regulatory light chain 2, smooth
135348	AA442054	U80983	Hs.268177	phospholipase C, gamma 1 (formerly subty
134404	AB000450	AB000450	Hs.82771	vaccinia related kinase 2
439561	AB002380	AF180681	Hs.6582	Rho guanine exchange factor (GEF) 12
100082	AB003103	AA130080	Hs.4295	proteasome (prosome, macropain) 26S subu
132817	AB004884	N27852	Hs.57553	tousled-like kinase 2
130150	AF000573	BE094848	Hs.15113	homogentisate 1,2-dioxygenase (homogenti
100104	AF008937	AF008937		syntaxin 16
447973	AF009301	AB011169	Hs.20141	similar to S. cerevisiae SSM4
332613	AF009368	AF029674	Hs.173422	KIAA1605 protein
100113	D00591	NM_001269	Hs.84746	chromosome condensation 1
133980	D00760	AA294921	Hs.348024	v-ral simian leukemia viral oncogene hom
100129	D11139	AA469369	Hs.5831	tissue inhibitor of metalloproteinase 1
100154	D14657	H60720	Hs.81892	KIAA0101 gene product
100169	D14878	AL037228	Hs.82043	D123 gene product
129718	D17716	NM_002410	Hs.121502	mannosyl (alpha-1,6-)-glycoprotein beta-
100190	D21090	M91401	Hs.178658	RAD23 (S. cerevisiae) homolog B
134742	D26135	NM_001346	Hs.89462	diacylglycerol kinase, gamma (90kD)
100211	D26528	D26528	Hs.123058	DEAD/H (Asp-Glu-Ala-Asp/His) box polypep
100238	D30742	L24959	Hs.348	calcium/calmodulin-dependent protein kin
130283	D31762	NM_012288	Hs.153954	TRAM-like protein
134237	D31765	D31765	Hs.170114	KIAA0061 protein
100248	D31888	NM_015156	Hs.78398	KIAA0071 protein
100256	D38128	D25418	Hs.393	prostaglandin I2 (prostacyclin) receptor
100262	D38500	D38500	Hs.278468	postmeiotic segregation increased 2-like
134329	D38551	N92036	Hs.81848	RAD21 (S. pombe) homolog
100281	D42087	AF091035	Hs.184627	KIAA0118 protein
100294	D49396	AA331881	Hs.75454	peroxiredoxin 3
100327	D55640	D55640		gb:Human monocyte PABL (pseudoautosomal
100335	D63391	AW247529	Hs.6793	platelet-activating factor acetylhydrola
134495	D63477	D63477	Hs.84087	KIAA0143 protein
100338	D63483	D86864	Hs.57735	acetyl LDL receptor; SREC
135152	D64015	M96954	Hs.182741	TIA1 cytotoxic granule-associated RNA-bi
134269	D79990	NM_014737	Hs.80905	Ras association (RalGDS/AF-6) domain fam
100372	D79997	NM_014791	Hs.184339	KIAA0175 gene product
134304	D80010	BE613486	Hs.81412	lipin 1

100394	D84276	D84284	Hs.66052	CD38 antigen (p45)
100405	D86425	AW291587	Hs.82733	nidogen 2
100418	D86978	D86978	Hs.84790	KIAA0225 protein
133154	D87012	D87012	Hs.194685	topoisomerase (DNA) III beta
134347	D87075	AF164142	Hs.82042	solute carrier family 23 (nucleobase tra
444099	D87432	D87432	Hs.10315	solute carrier family 7 (cationic amino
100438	D87448	AA013051	Hs.91417	topoisomerase (DNA) II binding protein
134593	D87845	NM_000437	Hs.234392	platelet-activating factor acetylhydrola
100481	HG1098-HT1098	X70377	Hs.121489	cystatin D
100552	HG2167-HT2237	AA019521	Hs.301946	lysosomal
100591	HG2415-HT2511	NM_004091	Hs.231444	Homo sapiens, Similar to hypothetical pr
100652	HG2825-HT2949	BE613608	Hs.142653	ret finger protein
100662	HG2887-HT3031	AI368680	Hs.816	SRY (sex determining region Y)-box 2
100899	HG4660-HT5073	AL039123	Hs.103042	microtubule-associated protein 1B
100905	HG4704-HT5146	L12260	Hs.172816	neuregulin 1
100945	HG884-HT884	AF002225	Hs.180686	ubiquitin protein ligase E3A (human papi
100950	HG919-HT919	AF128542	Hs.166846	polymerase (DNA directed), epsilon
100964	J00212	J00212		Empirically selected from AFFX single pr
135407	J04029	J04029	Hs.99936	keratin 10 (epidermolytic hyperkeratosis
130149	J04031	AW067805	Hs.172665	*methylenetetrahydrofolate dehydrogenase*
131877	J04088	J04088	Hs.156346	topoisomerase (DNA) II alpha (170kD)
101016	J04543	J04543	Hs.78637	annexin A7
134786	L06139	T29618	Hs.89640	TEK tyrosine kinase, endothelial (venous
134100	L07540	AA460085	Hs.171075	replication factor C (activator 1) 5 (36
134078	L08895	L08895	Hs.78995	MADS box transcription enhancer factor 2
101132	L11239	L11239	Hs.36993	gastrulation brain homeo box 1
134849	L11353	BE409525	Hs.902	neurofibromin 2 (bilateral acoustic neur
332736	L13773	Z83689	Hs.114765	myeloid/lymphoid or mixed-lineage leukem
101152	L13800	AI984625	Hs.9884	spindle pole body protein
135397	L14922	L14922	Hs.166563	replication factor C (activator 1) 1 (14
432642	L15189	BE297635	Hs.3069	heat shock 70kD protein 9B (mortalin-2)
101168	L15388	NM_005308	Hs.211569	G protein-coupled receptor kinase 5
421155	L16895	H87879	Hs.102267	lysyl oxidase
101226	L27476	AF083892	Hs.75608	tight junction protein 2 (zona occludens
415138	L27624	C18356	Hs.295944	tissue factor pathway inhibitor 2
134739	L32976	NM_002419	Hs.89449	mitogen-activated protein kinase kinase
130155	L33404	AA101043	Hs.151254	kallikrein 7 (chymotryptic, stratum corn
440538	L35263	W76332	Hs.79107	mitogen-activated protein kinase 14
409916	L37347	BE313625	Hs.57435	solute carrier family 11 (proton-coupled
101294	L40371	AF168418	Hs.116784	thyroid hormone receptor interactor 4
101300	L40391	BE535511		transmembrane trafficking protein
101310	L41607	L41607	Hs.934	glucosaminyl (N-acetyl) transferase 2, I
130344	L77566	AW250122	Hs.154879	DiGeorge syndrome critical region gene D
101381	M13928	AW675039	Hs.1227	aminolevulinate, delta-, dehydratase
101381	M13928	AW675039	Hs.1227	aminolevulinate, delta-, dehydratase
415678	M14016	AW005903	Hs.78601	uroporphyrinogen decarboxylase
133780	M14219	AA557660	Hs.76152	decorin
101396	M15796	BE267931	Hs.78996	proliferating cell nuclear antigen
101447	M21305	M21305		gb:Human alpha satellite and satellite 3
101458	M22092	M22092		gb:Human neural cell adhesion molecule (
101470	M22898	NM_000546	Hs.1846	tumor protein p53 (Li-Fraumeni syndrome)
134604	M22995	NM_002884	Hs.865	RAP1A, member of RAS oncogene family
101478	M23379	NM_002890	Hs.758	RAS p21 protein activator (GTPase activa
133519	M24400	AW583062	Hs.74502	chymotrypsinogen B1
131185	M25753	BE280074	Hs.23960	cyclin B1
134116	M27691	R84694	Hs.79194	cAMP responsive element binding protein
133999	M28213	AA535244	Hs.78305	RAB2, *member RAS oncogene family*
130174	M29550	M29551	Hs.151531	protein phosphatase 3 (formerly 2B), cat
129963	M29971	M29971	Hs.1384	O-6-methylguanine-DNA methyltransferase
132983	M30269	M30269		nidogen (enactin)
133900	M31158	M31158	Hs.77439	protein kinase, cAMP-dependent, regulato
101543	M31166	M31166	Hs.2050	pentaxin-related gene, rapidly induced b
101545	M31210	BE246154	Hs.154210	endothelial differentiation, sphingolipi
101620	M55420	S55271	Hs.247930	Epsilon , IgE
134691	M59979	AW382987	Hs.88474	prostaglandin-endoperoxide synthase 1 (p
133595	M62810	AA393273	Hs.75133	transcription factor 6-like 1 (mitochond
101700	M64710	D90337	Hs.247916	natriuretic peptide precursor C
101714	M68874	M68874	Hs.211587	phospholipase A2, group IVA (cytosolic,
134246	M74524	D28459	Hs.80612	ubiquitin-conjugating enzyme E2A (RAD6 h
101760	M80254	M80254	Hs.173125	peptidylprolyl isomerase F (cyclophilin
415022	M81780	X59960	Hs.77813	sphingomyelin phosphodiesterase 1, acid
415022	M81780	X59960	Hs.77813	sphingomyelin phosphodiesterase 1, acid
415022	M81780	X59960	Hs.77813	sphingomyelin phosphodiesterase 1, acid
415022	M81780	X59960	Hs.77813	sphingomyelin phosphodiesterase 1, acid
415022	M81780	X59960	Hs.77813	sphingomyelin phosphodiesterase 1, acid
101791	M83822	M83822	Hs.62354	cell division cycle 4-like

101812	M86934	BE439894	Hs.78991	DNA segment, numerous copies, expressed
101813	M87338	NM_002914	Hs.139226	replication factor C (activator 1) 2 (40
133396	M96326	M96326	Hs.72885	azurocidin 1 (cationic antimicrobial pro
428161	M96954	M96954	Hs.182741	TIA1 cytotoxic granule-associated RNA-bi
129026	M98833	AL120297	Hs.108043	Friend leukemia virus integration 1
101901	S66793	H38026	Hs.308	arrestin 3, retinal (X-arrestin)
134831	S72370	AA853479	Hs.89890	pyruvate carboxylase
134039	S78569	NM_002290	Hs.78672	laminin, alpha 4
442355	S79873	AA456539	Hs.8262	lysosomal-associated membrane protein 2
101975	S83325	AA079717	Hs.283664	aspartate beta-hydroxylase
101977	S83364	AF112213	Hs.184062	putative Rab5-interacting protein
101978	S83365	BE561610	Hs.5809	putative transmembrane protein; homolog
101998	U01212	U01212	Hs.248153	olfactory marker protein
102003	U01922	U01922	Hs.125565	translocase of inner mitochondrial membr
102007	U02556	U02556	Hs.75307	t-complex-associated-testis-expressed 1-
102009	U02680	BE245149	Hs.82643	protein tyrosine kinase 9
416658	U03272	U03272	Hs.79432	fibrillin 2 (congenital contractural ara
132951	U04209	AW821182	Hs.61418	microfibrillar-associated protein 1
135389	U05237	U05237	Hs.99872	fetal Alzheimer antigen
102048	U07225	U07225	Hs.339	purinergic receptor P2Y, G-protein coupl
130145	U07620	U34820	Hs.151051	mitogen-activated protein kinase 10
303153	U09759	U09759	Hs.246857	mitogen-activated protein kinase 9
420269	U09820	U72937	Hs.96264	alpha thalassemia/mental retardation syn
102095	U11313	U11313	Hs.75760	sterol carrier protein 2
102123	U14518	NM_001809	Hs.1594	centromere protein A (17kD)
102126	U14575	AW950870	Hs.78961	protein phosphatase 1, regulatory (inhib
102133	U15173	AU076845	Hs.155596	BCL2/adenovirus E1B 19kD-interacting pro
102139	U15932	NM_004419	Hs.2128	dual specificity phosphatase 5
102162	U18291	AA450274	Hs.1592	CDC16 (cell division cycle 16, S. cerevi
102164	U18300	NM_000107	Hs.77602	damage-specific DNA binding protein 2 (4
427653	U18383	AA159001	Hs.180069	nuclear respiratory factor 1
131817	U20536	U20536	Hs.3280	caspase 6, apoptosis-related cysteine pr
102200	U21551	AA232362	Hs.157205	branched chain aminotransferase 1, cytos
102210	U23028	BE619413	Hs.2437	eukaryotic translation initiation factor
102214	U23752	U23752	Hs.32964	SRY (sex determining region Y)-box 11
132811	U25435	U25435	Hs.57419	CCCTC-binding factor (zinc finger protei
131319	U25997	NM_003155	Hs.25590	stanniocalcin 1
102256	U28251	U28251	Hs.53237	ESTs, Highly similar to Z169_HUMAN ZINC
132316	U28831	U28831	Hs.44566	KIAA1641 protein
102269	U30245	U30245		gb:Human myelomonocytic specific protein
417526	U32315	AA568906	Hs.82240	syntaxin 3A
102293	U32439	AF090116	Hs.79348	regulator of G-protein signalling 7
102298	U32849	AA382169	Hs.54483	N-myc (and STAT) interactor
102325	U35139	AI815867	Hs.50130	necdin (mouse) homolog
428734	U36764	BE303044	Hs.192023	eukaryotic translation initiation factor
102361	U39400	AA223616	Hs.75859	chromosome 11 open reading frame 4
102367	U39657	U39656	Hs.118825	mitogen-activated protein kinase kinase
102388	U41344	AA362907	Hs.76494	proline arginine-rich end leucine-rich r
102394	U41766	NM_003816	Hs.2442	a disintegrin and metalloproteinase doma
129829	U41813	AF010258	Hs.127428	homeo box A9
102409	U43286	BE300330	Hs.118725	selenophosphate synthetase 2
133746	U44378	AW410035	Hs.75862	MAD (mothers against decapentaplegic, Dr
102423	U44754	Z47542	Hs.179312	small nuclear RNA activating complex, po
132828	U47011	AB014615	Hs.57710	fibroblast growth factor 8 (androgen-ind
132828	U47011	AB014615	Hs.57710	fibroblast growth factor 8 (androgen-ind
132828	U47011	AB014615	Hs.57710	fibroblast growth factor 8 (androgen-ind
132828	U47011	AB014615	Hs.57710	fibroblast growth factor 8 (androgen-ind
425322	U47077	U63630	Hs.155637	protein kinase, DNA-activated, catalytic
102450	U48251	U48251	Hs.75871	protein kinase C binding protein 1
129350	U50535	U50535	Hs.110630	Human BRCA2 region, mRNA sequence CG006
102534	U56833	U96759	Hs.198307	von Hippel-Lindau binding protein 1
130457	U58091	AB014595	Hs.155976	cullin 4B
135065	U58837	AA019401	Hs.93909	cyclic nucleotide gated channel beta 1
102560	U59289	R97457	Hs.63984	cadherin 13, H-cadherin (heart)
102567	U59863	U63830	Hs.146847	TRAF family member-associated NFKB activ
417173	U67122	U61397	Hs.81424	ubiquitin-like 1 (sentrin)
102638	U67319	U67319	Hs.9216	caspase 7, apoptosis-related cysteine pr
132736	U68019	AW081883	Hs.211578	Homo sapiens cDNA: FLJ23037 fis, clone L
133070	U69611	U92649	Hs.64311	a disintegrin and metalloproteinase doma
102663	U70322	NM_002270	Hs.168075	karyopherin (importin) beta 2
134660	U73524	U73524	Hs.87465	ATP/GTP-binding protein
102735	U79267	AF111106	Hs.3382	protein phosphatase 4, regulatory subuni
102741	U79291	AW959829	Hs.83572	hypothetical protein MGC14433
130564	U82671	U82671	Hs.36980	melanoma antigen, family A, 2
130564	U82671	U82671	Hs.36980	melanoma antigen, family A, 2
132164	U84573	AI752235	Hs.41270	procollagen-lysine, 2-oxoglutarate 5-dio

102823	U90914	D85390	Hs.5057	carboxypeptidase D
102826	U91316	NM_007274	Hs.8679	cytosolic acyl coenzyme A thioester hydr
102831	U91932	AA262170	Hs.80917	adaptor-related protein complex 3, sigma
102846	U96131	BE264974	Hs.6566	thyroid hormone receptor interactor 13
129777	U97018	U97018	Hs.12451	echinoderm microtubule-associated protei
134161	U97188	AA634543	Hs.79440	IGF-II mRNA-binding protein 3
134854	V00503	J03464	Hs.179573	collagen, type I, alpha 2
429257	X04327	AW163799	Hs.198365	2,3-bisphosphoglycerate mutase
413985	X06389	AI018666	Hs.75667	synaptophysin
419768	X07496	T72104	Hs.93194	apolipoprotein A-I
102915	X07820	X07820	Hs.2258	matrix metalloproteinase 10 (stromelysin
134656	X14787	AI750878	Hs.87409	thrombospondin 1
413858	X15525	NM_001610	Hs.75589	acid phosphatase 2, lysosomal
102968	X16396	AU076611	Hs.154672	methylene tetrahydrofolate dehydrogenase
102971	X16609	X16609	Hs.183805	ankyrin 1, erythrocytic
134037	X53586	AI808780	Hs.227730	integrin, alpha 6
134037	X53586	AI808780	Hs.227730	integrin, alpha 6
103023	X53793	AW500470	Hs.117950	multifunctional polypeptide similar to S
103037	X54936	BE018302	Hs.2894	placental growth factor, vascular endoth
130282	X55740	BE245380	Hs.153952	5' nucleotidase (CD73)
134542	X57025	M14156	Hs.85112	insulin-like growth factor 1 (somatomedi
128568	X60673	H12912	Hs.274691	adenylate kinase 3
128568	X60673	H12912	Hs.274691	adenylate kinase 3
103093	X60708	S79876	Hs.44926	dipeptidylpeptidase IV (CD26, adenosine
413076	X62048	U10564	Hs.75188	wee1 (S. pombe) homolog
129063	X63097	X63094	Hs.283822	Rhesus blood group, D antigen
424460	X63563	BE275979	Hs.296014	polymerase (RNA) II (DNA directed) polyp
411077	X64037	AW977263	Hs.68257	general transcription factor IIF, polype
103181	X69636	X69636	Hs.334731	Homo sapiens, clone IMAGE:3448306, mRNA,
103184	X69878	U43143	Hs.74049	fms-related tyrosine kinase 4
103194	X70649	NM_004939	Hs.78580	DEAD/H (Asp-Glu-Ala-Asp/His) box polypep
103208	X72841	AW411340	Hs.31314	retinoblastoma-binding protein 7
129698	X74987	BE242144	Hs.12013	ATP-binding cassette, sub-family E (OABP
131486	X83107	F06972	Hs.27372	BMX non-receptor tyrosine kinase
130729	X84194	AI963747	Hs.18573	acylphosphatase 1, erythrocyte (common)
103334	X85753	NM_001260	Hs.25283	cyclin-dependent kinase 8
132645	X87870	AI654712	Hs.54424	hepatocyte nuclear factor 4, alpha
135094	X89066	NM_003304	Hs.250687	transient receptor potential channel 1
103352	X89398	H09366	Hs.78853	uracil-DNA glycosylase
103352	X89398	H09366	Hs.78853	uracil-DNA glycosylase
103353	X89399	X89399	Hs.119274	RAS p21 protein activator (GTPase activa
132173	X89426	X89426	Hs.41716	endothelial cell-specific molecule 1
103371	X91247	X91247	Hs.13046	thioredoxin reductase 1
131584	X91648	AA598509	Hs.29117	purine-rich element binding protein A
103376	X92098	AL036166	Hs.323378	coated vesicle membrane protein
103378	X92110	AL119690	Hs.153618	HCGVIII-1 protein
128510	X94703	X94703		RAB28, member RAS oncogene family
103410	X96506	AA158294	Hs.295362	DR1-associated protein 1 (negative cofac
133490	X97230	AF022044	Hs.274601	killer cell immunoglobulin-like receptor
332689	X97230	AF022044	Hs.274601	killer cell immunoglobulin-like receptor
103438	X98263	AW175781	Hs.152720	M-phase phosphoprotein 6
103440	X98296	X98296	Hs.77578	ubiquitin specific protease 9, X chromos
103452	X99584	NM_006936	Hs.85119	SMT3 (suppressor of mif two 3, yeast) ho
133536	Y00264	W25797.comp		Hs.177486 amyloid beta (A4) precursor protein (pro
420234	Y07566	AW404908	Hs.96038	Ric (Drosophila)-like, expressed in many
426502	Y07759	Y07759	Hs.170157	myosin VA (heavy polypeptide 12, myoxin)
134662	Y07827	NM_007048	Hs.284283	butyrophilin, subfamily 3, member A1
132083	Y07867	BE386490	Hs.279663	Pirin
103500	Y09443	AW408009	Hs.22580	alkylglycerone phosphate synthase
134389	Y09858	Y09858	Hs.82577	spindlin-like
132084	Y12394	NM_002267	Hs.3886	karyopherin alpha 3 (importin alpha 4)
103540	Z11559	NM_002197	Hs.154721	aconitase 1, soluble
133152	Z11695	Z11695	Hs.324473	mitogen-activated protein kinase 1
103548	Z15005	Z15005	Hs.75573	centromere protein E (312kD)
103612	Z46261	BE336654	Hs.70937	H3 histone family, member A
129092	AA011243	D56365	Hs.63525	poly(rC)-binding protein 2
103692	AA018418	AW137912	Hs.227583	Homo sapiens chromosome X map Xp11.23 L-
103695	AA018758	AW207152	Hs.186600	ESTs
129796	AA018804	BE218319	Hs.5807	GTPase Rab14
434993	AA031993	AA306325	Hs.4311	SUMO-1 activating enzyme subunit 2
132683	AA044217	BE264633	Hs.143638	WD repeat domain 4
131887	AA046548	W17064	Hs.332848	SWI/SNF related, matrix associated, acti
103723	AA057447	BE274312	Hs.214783	Homo sapiens cDNA FLJ14041 fis, clone HE
453368	AA058376	W20296	Hs.288178	Homo sapiens cDNA FLJ11968 fis, clone HE
133260	AA083572	AA403045	Hs.6906	Homo sapiens cDNA: FLJ23197 fis, clone R
103765	AA085696	AA085696	Hs.169600	KIAA0826 protein

103766	AA088744	AI920783	Hs.191435	ESTs
103767	AA089688	BE244667		CGI-100 protein
132051	AA091284	AA393968	Hs.180145	HSPC030 protein
103773	AA092700	AI219323	Hs.101077	ESTs, Weakly similar to T22363 hypotheti
135289	AA092968	AW372569	Hs.9788	hypothetical protein MGC10924 similar to
409659	AA094800	AW970843	Hs.55682	eukaryotic translation initiation factor
103794	AA100219	AF244135	Hs.30670	hepatocellular carcinoma-associated anti
131471	AA114885	AA164842	Hs.192619	KIAA1600 protein
134319	AA129547	BE304999	Hs.285754	fumarate hydratase
103807	AA133016	AW958264	Hs.103832	*similar to yeast Upf3, variant B*
446392	AA149507	AF142419	Hs.15020	homolog of mouse quaking QKI (KH domain
129863	AA151005	BE379765	Hs.129872	sperm associated antigen 9
103850	AA187101	AA187101	Hs.213194	hypothetical protein MGC10895
103855	AA195179	W02363		hypothetical protein FLJ10330
103861	AA206236	AA206236	Hs.4944	hypothetical protein FLJ12783
130634	AA227621	AI769067	Hs.127824	ESTs, Weakly similar to T28770 hypotheti
447735	AA248283	AA775268	Hs.6127	Homo sapiens cDNA: FLJ23020 fis, clone L
103909	AA249611	AA249611	*Hs.47438*	*SH3 domain binding glutamic acid-rich pr*
458928	AA282640	AF043117	Hs.24594	ubiquitination factor E4B (homologous to
415824	AA287199	D42039	Hs.78871	mesoderm development candidate 2
129013	AA313990	AA371156	Hs.107942	DKFZP564M112 protein
129435	AA314256	AF151852	Hs.111449	CGI-94 protein
103988	AA314389	AA314389	Hs.342849	ADP-ribosylation factor-like 5
104000	AA324364	AI146527	Hs.80475	polymerase (RNA) II (DNA directed) polyp
425284	AA329211	AF155568	Hs.348043	NS1-associated protein 1
128629	AA399187	AL096748	Hs.102708	DKFZP434A043 protein
133281	AA421079	AK001601	Hs.69594	high-mobility group 20A
104104	AA422029	AA422029	Hs.143640	ESTs, Weakly similar to hyperpolarizatio
332455	AA425230	NM_005754	Hs.220689	Ras-GTPase-activating protein SH3-domain
132091	AA447052	AW954243		KIAA0251 protein
135073	AA452000	W55956	Hs.94030	Homo sapiens mRNA; cDNA DKFZp586E1624 (f
131367	AA456687	AI750575	Hs.173933	nuclear factor I/A
129593	AA487015	AI338247	Hs.98314	Homo sapiens mRNA; cDNA DKFZp586L0120 (f
133505	C01527	AI630124	Hs.324504	Homo sapiens mRNA; cDNA DKFZp586J0720 (f
132064	C01714	AA121098	Hs.3838	serum-inducible kinase
442351	C01811	W52642	Hs.8261	hypothetical protein FLJ22393
131427	C02352	AF151879	Hs.26706	CGI-121 protein
433892	C02375	AI929357	Hs.323966	Homo sapiens clone H63 unknown mRNA
104282	C14448	C14448	Hs.332338	EST
134827	D16611	BE314037	Hs.89866	coproporphyrinogen oxidase (coproporphyr
425330	D25216	D25216	Hs.155650	KIAA0014 gene product
131742	D31352	AA961420	Hs.31433	ESTs
456935	D58024	AA370362	Hs.57958	EGF-TM7-latrophilin-related protein
425218	D80897	NM_014909	Hs.155182	KIAA1036 protein
104334	D82614	D82614	Hs.78771	*phosphoglycerate kinase 1*
134593	D87845	NM_000437	Hs.234392	platelet-activating factor acetylhydrola
134731	D89377	D89377	Hs.89404	msh (Drosophila) homeo box homolog 2
445776	H06583	NM_001310	Hs.13313	cAMP responsive element binding protein-
131670	H40732	H03514	Hs.15589	ESTs
104394	H46617	AA129551	Hs.172129	Homo sapiens cDNA: FLJ21409 fis, clone C
104402	H56731	H56731	Hs.132956	ESTs
439130	H75570	AA306090	Hs.124707	ESTs
129077	H78886	N74724	Hs.108479	ESTs
104417	H81241	AI819448	Hs.320861	Kruppel-like factor 8
134927	L36531	L36531	Hs.91296	integrin, alpha 8
129280	M63154	M63154	Hs.110014	gastric intrinsic factor (vitamin B synt
134498	M63180	AW246273	Hs.84131	threonyl-tRNA synthetase
104460	M91504	AW955705	Hs.62604	Homo sapiens, clone IMAGE:4299322, mRNA,
104488	N56191	N56191	Hs.106511	protocadherin 17
131248	N78483	AI038989	Hs.332633	Bardet-Biedl syndrome 2
130017	R14652	AK000096	Hs.143198	inhibitor of growth family, member 3
104530	R20459	AK001676	Hs.12457	hypothetical protein FLJ10814
104534	R22303	R22303		gb:yh26b09.r1 Soares placenta Nb2HP Homo
104544	R33779	AI091173	Hs.222362	ESTs, Weakly similar to p40 [H.sapiens]
133328	R36553	AW452738	Hs.265327	hypothetical protein DKFZp761I141
104567	R64534	AA040620	Hs.5672	hypothetical protein AF140225
129575	R70621	F08282	Hs.278428	progestin induced protein
130776	R79356	AF167706	Hs.19280	cysteine-rich motor neuron 1
104599	R84933	AW815036	Hs.151251	ESTs
104660	AA007160	BE298665	Hs.14846	Homo sapiens mRNA; cDNA DKFZp564D016 (fr
104667	AA007234	AI239923	Hs.63931	ESTs
104718	AA018409	AI143020	Hs.36250	ESTs, Weakly similar to I38022 hypotheti
104764	AA025351	AI039243	Hs.278585	ESTs
104786	AA027168	AA027167	Hs.10031	KIAA0955 protein
104787	AA027317	AA027317		gb:ze97d11.s1 Soares_fetal_heart_NbHH19W
134079	AA029423	AK001751	Hs.171835	hypothetical protein FLJ10889

104804	AA031357	AI858702	Hs.31803	ESTs, Weakly similar to N-WASP [H.sapien
104865	AA045136	T79340	Hs.22575	B-cell CLL/lymphoma 6, member B (zinc fi
130828	AA053400	AW631469	Hs.203213	ESTs
104907	AA055829	AA055829	Hs.196701	ESTs, Weakly similar to ALU1_HUMAN ALU S
104943	AA065217	AF072873	Hs.114218	frizzled (Drosophila) homolog 6
105013	AA116054	H63789	Hs.296288	ESTs, Weakly similar to KIAA0638 protein
105024	AA126311	AA126311	Hs.9879	ESTs
132592	AA129390	AW803564	Hs.288850	Homo sapiens cDNA: FLJ22528 fis, clone H
105038	AA130273	AW503733	Hs.9414	KIAA1488 protein
105077	AA142919	W55946	Hs.234863	Homo sapiens cDNA FLJ12082 fis, clone HE
105096	AA150205	AL042506	Hs.21599	Kruppel-like factor 7 (ubiquitous)
129215	AA176867	AB040930	Hs.126085	KIAA1497 protein
105169	AA180321	BE245294	Hs.180789	S164 protein
132796	AA180487	NM_006283	Hs.173159	transforming, acidic coiled-coil contain
427210	AA187634	BE396283	Hs.173987	eukaryotic translation initiation factor
105200	AA195399	AA328102	Hs.24641	cytoskeleton associated protein 2
130114	AA234717	AA233393	Hs.14992	hypothetical protein FLJ11151
105330	AA234743	AW338625	Hs.22120	ESTs
105337	AA234957	AI468789	Hs.347187	myotubularin related protein 1
422040	AA235604	AA172106	Hs.110950	Rag C protein
105376	AA236559	AW994032	Hs.8768	hypothetical protein FLJ10849
105397	AA242868	AA814807	Hs.7395	hypothetical protein FLJ23182
431679	AA251776	AK000046	Hs.343877	hypothetical protein FLJ20039
131991	AA251909	AF053306	Hs.36708	budding uninhibited by benzimidazoles 1
421305	AA252672	BE397354	Hs.324830	diptheria toxin resistance protein requi
105489	AA256157	AA256157	Hs.24115	Homo sapiens cDNA FLJ14178 fis, clone NT
105508	AA256680	AA173942	Hs.326416	Homo sapiens mRNA; cDNA DKFZp564H1916 (f
105539	AA258873	AB040884	Hs.109694	KIAA1451 protein
135172	AA262727	AB028956	Hs.12144	KIAA1033 protein
131569	AA281451	AL389951	Hs.271623	nucleoporin 50kD
431129	AA281545	AL137751	Hs.263671	Homo sapiens mRNA; cDNA DKFZp434I0812 (f
105643	AA282069	BE621719	Hs.173802	KIAA0603 gene product
105659	AA283044	AA283044	Hs.25625	hypothetical protein FLJ11323
105666	AA283930	AA426234	Hs.34906	ESTs, Weakly similar to T17210 hypotheti
105674	AA284755	AI609530	Hs.279789	histone deacetylase 3
105709	AA291268	AI928962	Hs.26761	DKFZP586L0724 protein
105722	AA291927	AI922821	Hs.32433	ESTs
105765	AA343514	AA299688	Hs.24183	ESTs
115951	AA398109	BE546245	Hs.301048	sec13-like protein
130884	AA398109	BE546245	Hs.301048	sec13-like protein
105962	AA405737	AW880358	Hs.339808	hypothetical protein FLJ10120
105985	AA406610	AA406610		gb:zv15b10.s1 Soares_NhHMPu_S1 Homo sapi
106008	AA411465	AB033888	Hs.8619	SRY (sex determining region Y)-box 18
457322	AA416886	AI815486	Hs.243901	Homo sapiens cDNA FLJ20738 fis, clone HE
134222	AA424013	AW855861	Hs.8025	Homo sapiens clone 23767 and 23782 mRNA
446954	AA424148	AB037850	Hs.16621	DKFZP434I116 protein
106141	AA424558	AF031463	Hs.9302	phosducin-like
447973	AA424961	AB011169	Hs.20141	similar to S. cerevisiae SSM4
106157	AA425367	W37943	Hs.34892	KIAA1323 protein
428314	AA425921	AW135049	Hs.26285	Homo sapiens cDNA FLJ10643 fis, clone NT
446727	AA426220	AB011095	Hs.16032	KIAA0523 protein
106196	AA427735	AA525993	Hs.173699	ESTs, Weakly similar to ALU1_HUMAN ALU S
457714	AA430673	AA083764		hypothetical protein MGC3178
133200	AA432248	AB037715	Hs.183639	hypothetical protein FLJ10210
106302	AA435896	AA398859	Hs.18397	hypothetical protein FLJ23221
106328	AA436705	AL079559	Hs.28020	KIAA0766 gene product
450534	AA446561	AI570189	Hs.25132	KIAA0470 gene product
106423	AA448238	AB020722	Hs.16714	Rho guanine exchange factor (GEF) 15
439608	AA449756	AW864696	Hs.301732	hypothetical protein MGC5306
106477	AA450303	R23324	Hs.41693	DnaJ (Hsp40) homolog, subfamily B, membe
106503	AA452411	AB033042	Hs.29679	*cofactor required for Sp1 transcriptiona*
446999	AA454566	AA151520		hypothetical protein MGC4485
106543	AA454667	AA676939	Hs.69285	neuropilin 1
442007	AA456437	AA301116	Hs.142838	nucleolar phosphoprotein Nopp34
106589	AA456646	AK000933	Hs.28661	Homo sapiens cDNA FLJ10071 fis, clone HE
106593	AA456826	AW296451	Hs.24605	ESTs
106596	AA456981	AA452379		ESTs, Moderately similar to ALU7_HUMAN A
423064	AA458959	AF265208	Hs.8740	SWI/SNF related, matrix associated, acti
106636	AA459950	AW958037	Hs.286	ribosomal protein L4
106654	AA460449	AW075485	Hs.286049	phosphoserine aminotransferase
131353	AA463910	AW754182		gb:RC2-CT0321-131199-011-c01 CT0321 Homo
106707	AA464603	AK000566	Hs.98135	hypothetical protein FLJ20559
452909	AA464606	NM_015368	Hs.30985	pannexin 1
106717	AA465093	AA600357	Hs.239489	TIA1 cytotoxic granule-associated RNA-bi
453141	AA465692	AB014548	Hs.31921	KIAA0648 protein
106747	AA476473	NM_007118	Hs.171957	triple functional domain (PTPRF interact

106773	AA478109	AA478109	Hs.188833	ESTs
106781	AA478474	AA330310	Hs.24181	ESTs
106817	AA480889	D61216	Hs.18672	ESTs
106846	AA485223	AB037744	Hs.34892	KIAA1323 protein
106848	AA485254	AA449014	Hs.121025	chromosome 11 open reading frame 5
106856	AA486183	W58353	Hs.285123	Homo sapiens mRNA full length insert cDN
418699	AA496936	BE539639	Hs.173030	ESTs, Weakly similar to ALU8_HUMAN ALU S
107001	AA598589	AI926520	Hs.31016	putative DNA binding protein
442853	AA598831	AW021276	Hs.17121	ESTs
107054	AA600150	AI076459	Hs.15978	KIAA1272 protein
107059	AA608545	BE614410	Hs.23044	RAD51 (S. cerevisiae) homolog (E coli Re
107080	AA609210	AL122043	Hs.19221	hypothetical protein DKFZp566G1424
107115	AA610108	BE379623	Hs.27693	peptidylprolyl isomerase (cyclophilin)-l
107130	AA620582	AB033106	Hs.12913	KIAA1280 protein
107156	AA621239	AA137043	Hs.9663	programmed cell death 6-interacting prot
107174	AA621714	BE122762	Hs.25338	ESTs
130621	AA621718	AW513087	Hs.16803	LUC7 (S. cerevisiae)-like
107190	D19673	AA836401	Hs.87860	ESTs.
132626	D25755	AW504732	Hs.21275	hypothetical protein FLJ11011
107217	D51095	AL080235	Hs.35861	DKFZP586E1621 protein
332584	D60272	AA357879	Hs.29423	ESTs; Weakly similar to macrophage lectl
444655	T08879	AF088886	Hs.11590	cathepsin F
107295	T34527	AA186629	Hs.80120	UDP-N-acetyl-alpha-D-galactosamine:polyp
107299	T40327	BE277457	Hs.30661	hypothetical protein MGC4606
107315	T62771	AA316241	Hs.90691	nucleophosmin/nucleoplasmin 3
107316	T63174	T63174	Hs.193700	Homo sapiens mRNA; cDNA DKFZp586I0324 (f
107328	T83444	AW959891	Hs.76591	KIAA0887 protein
107334	T93641	T93597	Hs.187429	ESTs
456340	U48263	U48263	Hs.89040	prepronociceptin
128636	U49065	U49065	Hs.102865	interleukin 1 receptor-like 2
129938	U79300	AW003668	Hs.135587	Human clone 23629 mRNA sequence
107375	U88573	BE011845	Hs.251064	high-mobility group (nonhistone chromoso
130074	U93867	AL038596	Hs.250745	polymerase (RNA) III (DNA directed) (62k
107387	W01094	D86983	Hs.118893	Melanoma associated gene
132036	W01568	AL157433	Hs.37706	hypothetical protein DKFZp434E2220
107426	W26853	W26853	Hs.291003	hypothetical protein MGC4707
135388	W27965	W27965	Hs.99865	epimorphin
130419	W36280	AF037448	Hs.155489	NS1-associated protein 1
107469	W47063	W47063	Hs.94668	ESTs
434203	W79060	BE262677	Hs.283558	hypothetical protein PRO1855
107506	W88550	AB028981	Hs.8021	KIAA1058 protein
132358	X60486	NM_003542	Hs.46423	H4 histone family, member G
107522	X78931	X78931	Hs.99971	zinc finger protein 272
456495	Z14077	NM_003403	Hs.97496	YY1 transcription factor
107582	AA002147	AA002147	Hs.59952	EST
107609	AA004711	R75654	Hs.164797	hypothetical protein FLJ13693
107661	AA010383	AA010383	Hs.60389	ESTs
107714	AA015761	AA015761	Hs.60642	ESTs
107775	AA018772	AW008846	Hs.60857	ESTs
107832	AA021473	AA021473		gb:ze66c11.s1 Soares retina N2b4HR Homo
107859	AA024835	AW732573	Hs.47584	potassium voltage-gated channel, delayed
107914	AA027229	AA027229	Hs.61329	ESTs, Weakly similar to T16370 hypotheti
107935	AA029428	AA029428	Hs.61555	ESTs
410196	AA035143	AI936442	Hs.59838	hypothetical protein FLJ10808
131461	AA035237	AA992841	Hs.27263	KIAA1458 protein
108007	AA039347	AA039347	Hs.61916	EST
108029	AA040740	AA040740	Hs.62007	ESTs
108040	AA041551	AL121031	Hs.159971	SWI/SNF related, matrix associated, acti
108084	AA045513	AA058944	Hs.116602	Homo sapiens, clone IMAGE:4154008, mRNA,
108088	AA045745	AA045745	Hs.62886	ESTs
108168	AA055348	AI453137	Hs.63176	ESTs
130719	AA056582	AA679262	Hs.14235	hypothetical protein FLJ20008; KIAA1839
108189	AA056697	AW376061	Hs.63335	ESTs, Moderately similar to A46010 X-lin
108190	AA056746	AA056746	Hs.63338	EST
108203	AA057678	AW847814	Hs.289005	Homo sapiens cDNA: FLJ21532 fis, clone C
108216	AA058681	AA524743	Hs.44883	ESTs
108217	AA058686	AA058686	Hs.62588	ESTs
108245	AA062840	BE410285	Hs.89545	proteasome (prosome, macropain) subunit,
108277	AA064859	AA064859		gb:zm50f03.s1 Stratagene fibroblast (937
108280	AA065069	AA065069		gb:zm12e11.s1 Stratagene pancreas (93720
108309	AA069923	AA069818		gb:zm67e03.r1 Stratagene neuroepithelium
108340	AA070815	AA069820	Hs.180909	peroxiredoxin 1
108403	AA075374	AA075374		gb:zm87a01.s1 Stratagene ovarian cancer
108427	AA076382	AA076382		gb:zm91g08.s1 Stratagene ovarian cancer
108435	AA078787	T82427	Hs.194101	Homo sapiens cDNA: FLJ20869 fis, clone A
108439	AA078986	AA078986		gb:zm92h01.s1 Stratagene ovarian cancer

108465	AA079393	AA079393	Hs.3462	cytochrome c oxidase subunit VIIc
108469	AA079487	AA079487		gb:zm97f08.s1 Stratagene colon HT29 (937
108500	AA083207	AA083207	Hs.68270	EST
108501	AA083256	AA083256		gb:zn08g12.s1 Stratagene hNT neuron (937
108533	AA084415	AA084415		gb:zn06g09.s1 Stratagene hNT neuron (937
108562	AA085274	AA100796		gb:zm26c06.s1 Stratagene pancreas (93720
108589	AA088678	AI732404	Hs.68846	ESTs
130890	AA100925	AI907537	Hs.76698	stress-associated endoplasmic reticulum
432645	AA101255	D14041	Hs.347340	H-2K binding factor-2
130385	AA126474	AW067800	Hs.155223	stanniocalcin 2
108749	AA127017	AA127017	Hs.71052	ESTs
108807	AA129968	AI652236	Hs.49376	hypothetical protein FLJ20644
108808	AA130240	AA045088	Hs.62738	ESTs
108833	AA131866	AF188527	Hs.61661	ESTs, Weakly similar to AF174605 1 F-box
108846	AA132983	AL117452	Hs.44155	DKFZP586G1517 protein
108857	AA133250	AK001468	Hs.62180	anillin (Drosophila Scraps homolog), act
131474	AA133583	L46353	Hs.2726	high-mobility group (nonhistone chromoso
108894	AA135941	AK001431	Hs.5105	hypothetical protein FLJ10569
108941	AA148650	AA148650		gb:zo09e06.s1 Stratagene neuroepithelium
108968	AA151110	AI304870	Hs.188680	ESTs
108996	AA155754	AW995610	Hs.332436	EST
109001	AA156125	AI056548	Hs.72116	hypothetical protein FLJ20992 similar to
131183	AA156289	AI611807	Hs.285107	hypothetical protein FLJ13397
109019	AA156997	AA156755	Hs.72150	ESTs
109022	AA157291	AA157291	Hs.21479	ubinuclein 1
109023	AA157293	AA157293	Hs.72168	ESTs
109068	AA164293	AA164293	Hs.72545	ESTs
109072	AA164676	AI732585	Hs.22394	hypothetical protein FLJ10893
426981	AA167375	AL044675	Hs.173081	KIAA0530 protein
130346	AA167550	H05769	Hs.188757	Homo sapiens, clone MGC:5564, mRNA, comp
109146	AA176589	AA176589	Hs.142078	EST
109172	AA180448	AA180448	Hs.144300	EST
428438	AA187144	NM_001955	Hs.2271	endothelin 1
129208	AA189170	AI587376	Hs.109441	MSTP033 protein
109222	AA192757	AA192833	Hs.333512	similar to rat myomegalin
109300	AA205650	AA418276	Hs.170142	ESTs
109481	AA233342	AA878923	Hs.289069	hypothetical protein FLJ21016
109485	AA233472	BE619092	Hs.28465	Homo sapiens cDNA: FLJ21869 fis, clone H
109516	AA234110	AI471639	Hs.71913	ESTs
109537	D80981	AI858695	Hs.34898	ESTs
109556	F01660	AI925294	Hs.87385	ESTs
109577	F02206	F02206	Hs.296639	Homo sapiens potassium channel subunit (
109578	F02208	F02208	Hs.27214	ESTs
109595	F02544	AA078629	Hs.27301	ESTs
109625	F03918	H29490	Hs.22697	ESTs
428376	F04258	AF119665	Hs.184011	pyrophosphatase (inorganic)
109648	F04600	H17800	Hs.7154	ESTs
109671	F08998	R59210	Hs.26634	ESTs
109699	F09605	H18013	Hs.167483	ESTs
109820	F11115	AW016809	Hs.119021	ESTs
109933	H06371	R52417	Hs.20945	Homo sapiens clone 24993 mRNA sequence
110014	H10995	AL109666	Hs.7242	Homo sapiens mRNA full length insert cDN
110039	H11938	H11938	Hs.21907	histone acetyltransferase
110099	H16568	R44557	Hs.23748	ESTs
110107	H16772	AW151660	Hs.31444	ESTs
110155	H18951	AI559626	Hs.93522	Homo sapiens mRNA for KIAA1647 protein,
110197	H20859	AW090386	Hs.112278	arrestin, beta 1
110223	H23747	H19836	Hs.31697	ESTs
110306	H38087	H38087	Hs.105509	CTL2 gene
110335	H40331	H65490	Hs.18845	ESTs
110342	H40567	H40961	Hs.33008	ESTs
110395	H46966	AA025116	Hs.33333	ESTs
110511	H56640	H56640	Hs.221460	ESTs
110523	H57154	AI040384	Hs.19102	ESTs, Weakly similar to organic anion tr
110715	H96712	H96712	Hs.269029	ESTs
110754	N20814	AW302200	Hs.6336	KIAA0672 gene product
428454	N25249	U55936	Hs.184376	synaptosomal-associated protein, 23kD
431663	N27100	NM_016569	Hs.267182	TBX3-iso protein
134263	N39616	AW973443	Hs.8086	RNA (guanine-7-) methyltransferase
110938	N48982	N48982	Hs.38034	Homo sapiens cDNA FLJ12924 fis, clone NT
110983	N51957	NM_015367	Hs.10267	MIL1 protein
111081	N59435	AI146349	Hs.271614	CGI-112 protein
111128	N64139	AW505364	Hs.19074	LATS (large tumor suppressor, Drosophila
431548	N66981	AI834273	Hs.9711	novel protein
111216	N68640	AW139408	Hs.152940	ESTs
437562	N69352	AB001636	Hs.5683	DEAD/H (Asp-Glu-Ala-Asp/His) box polypep

111399	R00138	AW270776	Hs.18857	ESTs
111514	R07998	R07998		gb:yf16g11.s1 Soares fetal liver spleen
428744	R08929	BE267033	Hs.192853	ubiquitin-conjugating enzyme E2G 2 (homo
111574	R10307	AI024145	Hs.188526	ESTs
111804	R33354	AA482478	Hs.181785	ESTs
111831	R36083	R36095	Hs.268695	ESTs
426773	R37938	NM_015556	Hs.172180	KIAA0440 protein
111904	R39330	Z41572		gb:HSCZYB122 normalized infant brain cDN
428371	R40816	AB012193	Hs.183874	cullin 4A
112033	R43162	R49031	Hs.22627	ESTs
130987	R45698	BE613269	Hs.21893	hypothetical protein DKFZp761N0624
112300	R54554	H24334	Hs.26125	ESTs
112513	R68425	R68425	Hs.13809	hypothetical protein FLJ10648
112514	R68568	R68568	Hs.183373	src homology 3 domain-containing protein
112522	R68763	R68857	Hs.265499	ESTs
112540	R70467	R69751		gb:yi40a10.s1 Soares placenta Nb2HP Homo
428655	R73565	H05769	Hs.188757	Homo sapiens, clone MGC:5564, mRNA, comp
129534	R73640	AK002126	Hs.11260	hypothetical protein FLJ11264
112597	R78376	R78376	Hs.29733	EST
112732	R92453	R92453	Hs.34590	ESTs
451798	T03865	BE297567	Hs.27047	hypothetical protein FLJ20392
112888	T03872	AW195317	Hs.107716	hypothetical protein FLJ22344
131863	T10072	AI656378	Hs.33461	ESTs
112911	T10080	AW732747	Hs.13493	like mouse brain protein E46
132215	T10132	AL035703	Hs.4236	KIAA0478 gene product
112931	T15343	T02966	Hs.167428	ESTs
112984	T23457	T16971	Hs.289014	ESTs, Weakly similar to A43932 mucin 2 p
112998	T23555	H11257	Hs.22968	Homo sapiens clone IMAGE:451939, mRNA se
133376	T23670	BE618768	Hs.7232	acetyl-Coenzyme A carboxylase alpha
113026	T23948	AA376654		eukaryotic translation initiation factor
113070	T33464	AB032977	Hs.6298	KIAA1151 protein
410781	T34413	AI375672	Hs.165028	ESTs
113074	T34611	AK001335	Hs.31137	protein tyrosine phosphatase, receptor t
113095	T40920	AA828380	Hs.126733	ESTs
113179	T55182	BE622021	Hs.152571	ESTs, Highly similar to IGF-II mRNA-bind
113337	T77453	T77453	Hs.302234	ESTs
113421	T84039	AI769400	Hs.189729	ESTs
113454	T86458	AI022166	Hs.16188	ESTs
113481	T87693	T87693	Hs.204327	EST
453345	T89350	AA302862	Hs.90063	neurocalcin delta
113557	T90945	H66470	Hs.16004	ESTs
113559	T90987	T79763	Hs.14514	ESTs
113589	T91863	AI078554	Hs.15682	ESTs
113591	T91881	T91881	Hs.200597	KIAA0563 gene product
113619	T93783	R08665	Hs.17244	hypothetical protein FLJ13605
113683	T96687	AB035335	Hs.144519	T-cell leukemia/lymphoma 6
113692	T96944	AL360143	Hs.17936	DKFZP434H132 protein
113702	T97307	T97307		gb:ye53h05.s1 Soares fetal liver spleen
113717	T97764	T99513	Hs.187447	ESTs
113824	W48817	AI631964	Hs.34447	ESTs
113840	W58343	R72137	Hs.7949	DKFZP586B2420 protein
113844	W59949	AI369275	Hs.243010	Homo sapiens cDNA FLJ14445 fis, clone HE
113902	W74644	AA340111	Hs.100009	acyl-Coenzyme A oxidase 1, palmitoyl
113904	W74761	AF125044	Hs.19196	ubiquitin-conjugating enzyme HBUCE1
113905	W74802	R81733	Hs.33106	ESTs
113931	W81205	BE255499	Hs.3496	hypothetical protein MGC15749
113932	W81237	AA256444	Hs.126485	hypothetical protein FLJ12604; KIAA1692
131965	W90146	W79283	Hs.35962	ESTs
114035	W92798	W92798	Hs.269181	ESTs
114106	Z38412	AW602528		gb:RC5-BT0562-260100-011-A02 BT0562 Homo
457308	Z38709	AI416988	Hs.238272	inositol 1,4,5-triphosphate receptor, ty
114161	Z38904	BE548222	Hs.299883	hypothetical protein FLJ23399
424949	Z39103	AF052212	Hs.153934	core-binding factor, runt domain, alpha
457548	Z39930	AW069534	Hs.279583	CGI-81 protein
128937	Z39939	AA251380	Hs.10726	ESTs, Weakly similar to ALU1_HUMAN ALU S
432554	Z40012	AI479813	Hs.278411	NCK-associated protein 1
114277	Z40377	AI052229	Hs.25373	ESTs, Weakly similar to T20410 hypotheti
114304	Z40820	AI934204	Hs.16129	ESTs
114364	Z41680	AL117427	Hs.172778	Homo sapiens mRNA; cDNA DKFZp566P013 (fr
432620	AA005112	AA777749	Hs.5978	LIM domain only 7
129034	AA005432	AA481157	Hs.108110	DKFZP547E2110 protein
131881	AA010163	AW361018	Hs.3383	upstream regulatory element binding prot
332421	AA026356	AI909968	Hs.108106	transcription factor
114465	AA026901	BE621056	Hs.131731	hypothetical protein FLJ11099
451271	AA036867	AK001644	Hs.26156	hypothetical protein FLJ10782
332498	AA044644	AA303661		lymphocyte-specific protein 1

431555	AA046426	AI815470	Hs.260024	Cdc42 effector protein 3
132944	AA054515	T96641	Hs.6127	Homo sapiens cDNA: FLJ23020 fis, clone L
114618	AA084162	AW979261	Hs.291993	ESTs
332509	AA085749	AA128376	Hs.153884	ATP binding protein associated with cell
114648	AA101056	AA101056		gb:zn25b03.s1 Stratagene neuroepithelium
114658	AA102746	AA102383	Hs.249190	tumor necrosis factor receptor superfaml
132456	AA114250	AB011084	Hs.48924	KIAA0512 gene product; ALEX2
450847	AA126561	NM_003155	Hs.25590	stanniocalcin 1
132225	AA128980	AA128980		gb:zo09a11.s1 Stratagene neuroepithelium
437197	AA129757	W38586		guanine nucleotide binding protein (G pr
114709	AA129921	AA397651	Hs.301959	proline synthetase co-transcribed (bacte
456926	AA133331	AB018284	Hs.158688	KIAA0741 gene product
114750	AA135958	AA887211	Hs.129467	ESTs
426806	AA136524	T19228	Hs.172572	hypothetical protein FLJ20093
114763	AA147044	AA810755	Hs.102500	hypothetical protein dJ511E16.2
114767	AA148885	AI859865	Hs.154443	minichromosome maintenance deficient (S.
114774	AA150043	AV656017	Hs.184325	CGI-76 protein
129388	AA151621	AA662477	Hs.110964	hypothetical protein FLJ23471
457742	AA155743	BE561824	Hs.273369	uncharacterized hematopoietic stem/proge
456200	AA156335	AA768242	Hs.80618	hypothetical protein
130207	AA156336	AF044209	Hs.144904	nuclear receptor co-repressor 1
114798	AA159181	AA159181	Hs.54900	serologically defined colon cancer antig
114800	AA159825	Z19448	Hs.131887	ESTs, Weakly similar to T24396 hypotheti
114828	AA234185	AA252937	Hs.283522	Homo sapiens mRNA; cDNA DKFZp434J1912 (f
114846	AA234929	BE018682	Hs.166196	ATPase, Class I, type 8B, member 1
114848	AA234935	BE614347	Hs.169615	hypothetical protein FLJ20989
114902	AA236359	AW275480	Hs.39504	hypothetical protein MGC4308
132271	AA236466	AB030034	Hs.115175	sterile-alpha motif and leucine zipper c
114907	AA236535	N29390	Hs.13804	hypothetical protein dJ462O23.2
420170	AA236935	U43374	Hs.95631	Human normal keratinocyte mRNA
132204	AA236942	AA235827	Hs.42265	ESTs
114928	AA237018	AA237018	Hs.94869	ESTs
132481	AA237025	W93378	Hs.49614	ESTs
114932	AA242751	AA971436	Hs.16218	KIAA0903 protein
314162	AA242760	BE041820	Hs.38516	Homo sapiens, clone MGC:15887, mRNA, com
131006	AA242763	AF064104	Hs.22116	CDC14 (cell division cycle 14, S. cerevi
114935	AA242809	H23329	Hs.290880	ESTs, Weakly similar to ALU1_HUMAN ALU S
408908	AA243133	BE296227	Hs.250822	serine/threonine kinase 15
437754	AA243495	R60366	Hs.5822	Homo sapiens cDNA: FLJ22120 fis, clone H
114957	AA243706	AW170425	Hs.87680	ESTs
114974	AA250848	AW966931	Hs.302649	nucleosome assembly protein 1-like 1
114977	AA250868	AW296978	Hs.87787	ESTs
114995	AA251152	AA769266	Hs.193657	ESTs
115005	AA251544	AI760825	Hs.153042	ESTs
417177	AA251792	NM_004458	Hs.81452	fatty-acid-Coenzyme A ligase, long-chain
115026	AA252144	AA251972	Hs.188718	ESTs
115045	AA252524	AW014549	Hs.58373	ESTs
115068	AA253461	AW512260	Hs.87767	ESTs
133138	AA255522	AV657594	Hs.181161	Homo sapiens cDNA FLJ14643 fis, clone NT
332668	AA255522	AV657594	Hs.181161	ESTs
115114	AA256468	AA527548	Hs.7527	small fragment nuclease
129584	AA256528	AV656017	Hs.184325	CGI-76 protein
115137	AA257976	AW968304	Hs.56156	ESTs
417187	AA258296	AB011151	Hs.334659	hypothetical protein MGC14139
115166	AA258409	AF095727	Hs.287832	myelin protein zero-like 1
115167	AA258421	AA749209	Hs.43728	hypothetical protein
436719	AA262077	Y11192	Hs.5299	aldehyde dehydrogenase 5 family, member
115239	AA278650	BE251328	Hs.73291	hypothetical protein FLJ10881
115243	AA278766	AA806600	Hs.116665	KIAA1842 protein
428419	AA280791	U49436		KIAA1856 protein
115322	AA280819	L08895	Hs.78995	MADS box transcription enhancer factor 2
413303	AA280828	AW836130	Hs.75277	hypothetical protein FLJ13910
115372	AA282195	AW014385	Hs.88678	ESTs, Weakly similar to Unknown [H.sapie
409962	AA283127	U82671	Hs.57698	Target CAT
130269	AA284694	F05422	Hs.168352	nucleoporin-like protein 1
456570	AA291137	AA286914	Hs.183299	ESTs
332675	AA291708	BE439944		ESTs
407864	AA293495	AF069291	Hs.40539	chromosome 8 open reading frame 1
115536	AA347193	AK001468	Hs.62180	anillin (Drosophila Scraps homolog), act
408799	AA398474	AA059412	Hs.47986	hypothetical protein MGC10940
115575	AA398512	AA393254	Hs.43619	ESTs
115601	AA400277	AA148984	Hs.48849	ESTs, Weakly similar to ALU4_HUMAN ALU S
434428	AA400896	D14540	Hs.199160	myeloid/lymphoid or mixed-lineage leukem
115683	AA410345	AF255910	Hs.54650	junctional adhesion molecule 2
115715	AA416733	BE395161	Hs.1390	proteasome (prosome, macropain) subunit,
132952	AA425154	AI658580	Hs.61426	Homo sapiens mesenchymal stem cell prote

115819	AA426573	AA486620	Hs.41135	endomucin-2
409124	AA431418	AW292809	Hs.50727	N-acetylglucosaminidase, alpha- (Sanfili
115895	AA436182	AB033035	Hs.51965	KIAA1209 protein
458073	AA437099	AA192669	Hs.45032	ESTs
115962	AA446585	AI636361	Hs.179520	hypothetical protein MGC10702
115967	AA446887	AI745379	Hs.42911	ESTs
115974	AA447224	BE513442	Hs.238944	hypothetical protein FLJ10631
115985	AA447709	AA447709	Hs.268115	ESTs, Weakly similar to T08599 probable
129254	AA453624	AA252468	Hs.1098	DKFZp434J1813 protein
446730	AA455044	BE384932	Hs.64313	ESTs, Weakly similar to AF257182 1 G-pro
116095	AA456045	AA043429	Hs.62618	ESTs
426856	AA460454	R19768	Hs.172788	ALEX3 protein
116210	AA476494	BE622792	Hs.172788	ALEX3 protein
116213	AA476738	AA292105	Hs.326740	hypothetical protein MGC10947
432645	AA481422	D14041	Hs.347340	H-2K binding factor-2
116265	AA482595	BE297412	Hs.55189	hypothetical protein
129334	AA485084	AW157022	Hs.343551	hypothetical protein FLJ22584
116274	AA485431	AI129767	Hs.182874	guanine nucleotide binding protein (G pr
426002	AA489638	BE514376	Hs.165998	PAI-1 mRNA-binding protein
116331	AA491000	N41300	Hs.71616	Homo sapiens mRNA; cDNA DKFZp586N1720 (f
116333	AA491250	AF155827	Hs.203963	hypothetical protein FLJ10339
132994	AA505133	AA112748	Hs.279905	clone HQ0310 PRO0310p1
418538	AA598447	BE244323	Hs.85951	exportin, tRNA (nuclear export receptor
116391	AA599243	T86558	Hs.75113	general transcription factor IIIA
116394	AA599574	NM_006033	Hs.65370	lipase, endothelial
134531	AA600153	AI742845	Hs.110713	DEK oncogene (DNA binding)
116417	AA609309	AW499664		Human clone 23826 mRNA sequence
116429	AA609710	AF191018	Hs.279923	putative nucleotide binding protein, est
116439	AA610068	AA251594	Hs.43913	PIBF1 gene product
116459	AA621399	R80137	Hs.302738	Homo sapiens cDNA: FLJ21425 fis, clone C
427505	AA621752	AA361562	Hs.178761	26S proteasome-associated pad1 homolog
409633	C21523	AW449822	Hs.55200	ESTs
116541	D12160	D12160	Hs.249212	polymerase (RNA) III (DNA directed) (155
132557	D19708	AA114926	Hs.169531	ESTs
414964	D25801	AA337548	Hs.333402	hypothetical protein MGC12760
116571	D45652	D45652	Hs.211604	gb:HUMGS02848 Human adult lung 3' direct
451522	D60208	BE565817	Hs.26498	hypothetical protein FLJ21657
421919	D80504	AJ224901	Hs.109526	zinc finger protein 198
116643	F03010	AI367044	Hs.153638	myeloid/lymphoid or mixed-lineage leukem
116661	F04247	R61504		gb:yh16a03.s1 Soares infant brain 1NIB H
116715	F10966	AL117440	Hs.170263	tumor protein p53-binding protein, 1
116729	F13700	BE549407	Hs.115823	ribonuclease P, 40kD subunit
318709	H05063	R52576	Hs.285280	Homo sapiens cDNA: FLJ22096 fis, clone H
418999	H16758	NM_000121	Hs.89548	erythropoietin receptor
116773	H17315	AI823410	Hs.343581	karyopherin alpha 1 (importin alpha 5)
116780	H22566	H22566	Hs.63931	ESTs
453884	H48459	AA355925	Hs.36232	KIAA0186 gene product
116819	H53073	H53073	Hs.93698	EST
427278	H56559	AL031428	Hs.174174	KIAA0601 protein
407833	H57957	AW955632	Hs.66666	ESTs, Weakly similar to S19560 proline-r
116844	H64938	H64938	Hs.337434	ESTs, Weakly similar to A46010 X-linked
116845	H64973	AA649530	Hs.348148	gb:ns44f05.s1 NCI_CGAP_Alv1 Homo sapiens
116892	H69535	AI573283	Hs.38458	ESTs
116925	H73110	H73110	Hs.260603	ESTs, Moderately similar to A47582 B-cel
116981	H81783	N29218	Hs.40290	ESTs
453133	H86259	AC005757	Hs.31809	hypothetical protein
117031	H88353	H88353	Hs.347265	gb:yw21a02.s1 Morton Fetal Cochlea Homo
117034	H88639	U72209		YY1-associated factor 2
431129	H88675	AL137751	Hs.263671	Homo sapiens mRNA; cDNA DKFZp434I0812 (f
417861	H93708	AA334551		sperm specific antigen 2
117280	N22107	M18217	Hs.172129	Homo sapiens cDNA: FLJ21409 fis, clone C
117344	N24046	R19085	Hs.210706	Homo sapiens cDNA FLJ13182 fis, clone NT
117422	N27028	AI355562	Hs.43880	ESTs, Weakly similar to A46010 X-linked
117475	N30205	N30205	Hs.93740	ESTs, Weakly similar to I38022 hypotheti
117487	N30621	N30621	Hs.44203	ESTs
117937	N33258	AF044209	Hs.144904	nuclear receptor co-repressor 1
130207	N33258	AF044209	Hs.144904	nuclear receptor co-repressor 1
117549	N33390	N33390	Hs.44483	EST
117683	N40180	N40180		gb:yy44d02.s1 Soares_multiple_sclerosis_
117710	N45198	N45198	Hs.47248	ESTs, Highly similar to similar to Cdc14
117791	N48325	N48325	Hs.93956	EST
117822	N48913	AA706282	Hs.93963	ESTs
422544	N49394	AB018259	Hs.118140	KIAA0716 gene product
117895	N50656	AW450348	Hs.93996	ESTs, Highly similar to SORL_HUMAN SORTI
452259	N50721	AA317439	Hs.28707	signal sequence receptor, gamma (translo
133057	N53143	AA465131	Hs.64001	Homo sapiens clone 25218 mRNA sequence

118103	N55326	AA401733	Hs.184134	ESTs
118111	N55493	N55493		gb:yv50c02.s1 Soares fetal liver spleen
118129	N57493	N57493		gb:yy54c08.s1 Soares_multiple_sclerosis_
118278	N62955	N62955	Hs.316433	Homo sapiens cDNA FLJ11375 fis, clone HE
118329	N63520	N63520		gb:yy62f01.s1 Soares_multiple_sclerosis_
118336	N63604	BE327311	Hs.47166	HT021
417098	N64166	AB017365	Hs.173859	frizzled (Drosophila) homolog 7
118363	N64168	AI183838	Hs.48938	hypothetical protein FLJ21802
118364	N64191	N46114	Hs.29169	hypothetical protein FLJ22623
118475	N66845	N66845		gb:za46c11.s1 Soares fetal liver spleen
118491	N67135	AV647908	Hs.90424	Homo sapiens cDNA: FLJ23285 fis, clone H
118500	N67295	W32889	Hs.154329	ESTs
118584	N68963	AW136928		gb:UI-H-BI1-adp-d-08-0-UI.s1 NCI_CGAP_Su
456647	N69331	AI252640	Hs.110364	peptidylprolyl isomerase C (cyclophilin
118661	N70777	AL137554	Hs.49927	protein kinase NYD-SP15
118684	N71364	N71313	Hs.163986	Homo sapiens cDNA: FLJ22765 fis, clone K
118689	N71545	AW390601	Hs.184544	Homo sapiens, clone IMAGE:3355383, mRNA,
118690	N71571	N71571	Hs.269142	ESTs
118766	N74456	N74456	Hs.50499	EST
118793	N75594	N75594	Hs.285921	ESTs, Moderately similar to T47135 hypot
118817	N79035	AI668658	Hs.50797	ESTs
118844	N80279	AL035364	Hs.50891	hypothetical protein
118919	N91797	AW452696	Hs.130760	myosin phosphatase, target subunit 2
129558	N92454	AW580922	Hs.180446	karyopherin (importin) beta 1
407604	N94581	AW191962	Hs.288061	collagen, type VIII, alpha 2
118996	N94746	N94746	Hs.274248	hypothetical protein FLJ20758
119021	N98238	N98238	Hs.55185	ESTs
119039	R02384	AI160570	Hs.252097	pregnancy specific beta-1-glycoprotein 6
119063	R16833	R16833	Hs.53106	ESTs, Moderately similar to ALU1_HUMAN A
332622	R41828	R10674		CSR1 protein
119111	R43203	T02865	Hs.328321	EST
415115	R46395	AA214228	Hs.127751	hypothetical protein
119146	R58863	R58863	Hs.91815	ESTs
449224	R78248	AW995911	Hs.299883	hypothetical protein FLJ23399
119239	T11483	T11483		gb:CHR90049 Chromosome 9 exon Homo sapie
119281	T16896	AI692322	Hs.65373	ESTs, Weakly similar to T02345 hypotheti
119298	T23820	NM_001241	Hs.155478	cyclin T2
126502	T30222	T10077	Hs.13453	hypothetical protein FLJ14753
419983	W15275	W55956	Hs.94030	Homo sapiens mRNA; cDNA DKFZp586E1624 (f
119558	W38194	W38194		Empirically selected from AFFX single pr
429641	W42414	AW081883	Hs.211578	Homo sapiens cDNA: FLJ23037 fis, clone L
419445	W49632	AA884471	Hs.90449	Human clone 23908 mRNA sequence
119650	W57613	R82342	Hs.79856	ESTs, Weakly similar to S65657 alpha-1C-
119654	W57759	W57759		gb:zd20g11.s1 Soares_fetal_heart_NbHH19W
119683	W61118	W65379	Hs.57835	ESTs
119694	W65344	AA041350	Hs.57847	ESTs, Moderately similar to ICE4_HUMAN C
119718	W69216	W69216	Hs.92848	ESTs
410365	W69379	AI287518		Homo sapiens mRNA; cDNA DKFZp586D0923 (f
119938	W86728	AW014862	Hs.58885	ESTs
120128	Z38499	BE379320	Hs.91448	MKP-1 like protein tyrosine phosphatase
120130	Z38630	AA045767	Hs.5300	bladder cancer associated protein
120148	Z39494	F02806	Hs.65765	ESTs
120155	Z39623	Z39623	Hs.65783	ESTs
451979	Z40071	F06972	Hs.27372	BMX non-receptor tyrosine kinase
120183	Z40174	AW082866	Hs.65882	ESTs
120184	Z40182	Z40182	Hs.65885	EST
120211	Z40904	Z40904	Hs.66012	EST
120245	AA166965	AW959615	Hs.111045	ESTs
120247	AA167500	AA167500	Hs.103939	EST
120254	AA169599	W90403	Hs.111054	ESTs
120259	AA171724	AW014786	Hs.192742	hypothetical protein FLJ12785
120260	AA171739	AK000061	Hs.101590	hypothetical protein
120275	AA177105	AA177105	Hs.78457	solute carrier family 25 (mitochondrial
120284	AA182626	AA179656		gb:zp54e11.s1 Stratagene NT2 neuronal pr
417735	AA186324	AA188175	Hs.82506	KIAA1254 protein
422137	AA192099	AJ236885		zinc finger protein 148 (pHZ-52)
120302	AA192173	AA837098	Hs.269933	ESTs
120303	AA192415	AI216292	Hs.96184	ESTs
120305	AA192553	AW295096	Hs.101337	uncoupling protein 3 (mitochondrial, pro
120319	AA194851	T57776	Hs.191094	ESTs
408729	AA195520	AA195764	Hs.72639	ESTs
120326	AA196300	AA196300	Hs.21145	hypothetical protein RG083M05.2
133145	AA196549	H94227	Hs.6592	Homo sapiens, clone IMAGE:2961368, mRNA,
120327	AA196721	AK000292	Hs.130732	hypothetical protein FLJ20285
120328	AA196979	AA923278	Hs.290905	ESTs, Weakly similar to protease [H.sapi
120340	AA206828	AA206828		gb:zq80b08.s1 Stratagene hNT neuron (937

417122	AA207123	AI906291	Hs.81234	Immunoglobulin superfamily, member 3
131522	AA214539	AI380040	Hs.239489	TIA1 cytotoxic granule-associated RNA-bi
421787	AA226914	AA227068	Hs.108301	nuclear receptor subfamily 2, group C, m
120375	AA227260	AF028706	Hs.111227	Zic family member 3 (odd-paired Drosophi
120376	AA227469	AA227469		gb:zr18a07.s1 Stratagene NT2 neuronal pr
120390	AA233122	AA837093	Hs.111460	calcium/calmodulin-dependent protein kin
410804	AA233334	U64820	Hs.66521	Machado-Joseph disease (spinocerebellar
434223	AA233347	AI825842	Hs.3776	zinc finger protein 216
312771	AA233714	AA018515	Hs.264482	Homo sapiens mRNA; cDNA DKFZp761A0411 (f
120396	AA233796	AA134006	Hs.79306	eukaryotic translation initiation factor
120409	AA235050	AA235050		gb:zs38e04.s1 Soares_NhHMPu_S1 Homo sapi
120414	AA235704	AW137156	Hs.181202	hypothetical protein FLJ10038
120420	AA236031	AI128114	Hs.112885	spinal cord-derived growth factor-B
120422	AA236352	AL133097	Hs.301717	*hypothetical protein DKFZp434N1928*
419326	AA236390	W94915	Hs.42419	ESTs
120423	AA236453	AA236453	Hs.18978	Homo sapiens cDNA: FLJ22822 fis, clone K
120435	AA243370	AA243370	Hs.96450	EST
120453	AA250947	AA250947	Hs.170263	tumor protein p53-binding protein, 1
120455	AA251083	AA251720	Hs.104347	ESTs, Weakly similar to ALUC_HUMAN !!!!
120456	AA251113	AA488750	Hs.88414	BTB and CNC homology 1, basic leucine zi
120473	AA251973	AA251973	Hs.269988	ESTs
128922	AA252023	AI244901	Hs.9589	ubiquilin 1
120477	AA252414	AA252414	Hs.43141	DKFZP727C091 protein
120479	AA252650	AF006689	Hs.110299	mitogen-activated protein kinase kinase
120488	AA255523	AW952916	Hs.63510	KIAA0141 gene product
120510	AA258128	AI796395	Hs.111377	ESTs
120527	AA262105	AA262105	Hs.4094	Homo sapiens cDNA FLJ14208 fis, clone NT
120528	AA262107	AI923511	Hs.104413	ESTs
120529	AA262235	AI434823	Hs.104415	ESTs
120541	AA278298	W07318	Hs.240	M-phase phosphoprotein 1
120544	AA278721	BE548277	Hs.103104	ESTs
120562	AA280036	BE244580	Hs.342307	hypothetical protein FLJ10330
120569	AA280648	AA807544	Hs.24970	ESTs, Weakly similar to B34323 GTP-bindi
120571	AA280738	AB037744	Hs.34892	KIAA1323 protein
120572	AA280794	H39599	Hs.294008	ESTs
129434	AA280837	AW967495	Hs.186644	ESTs
130529	AA280886	AA178953	Hs.309648	gb:zp39e03.s1 Stratagene muscle 937209 H
120575	AA280934	AW978022	Hs.238911	hypothetical protein DKFZp762E1511; KIAA
409339	AA281535	AB020686	Hs.54037	ectonucleotide pyrophosphatase/phosphodi
120591	AA281797	AF078847	Hs.191356	general transcription factor IIH, polype
120593	AA282047	AA748355	Hs.193522	ESTs
430275	AA283002	Z11773	Hs.237786	zinc finger protein 187
440303	AA283709	AA306166	Hs.7145	calpain 7
120609	AA283902	AW978721	Hs.266076	ESTs, Weakly similar to A46010 X-linked
409702	AA284108	AI752244		eukaryotic translation elongation factor
456870	AA284109	AI241084	Hs.154353	nonselective sodium potassium/proton exc
132614	AA284371	AA284371	Hs.118064	similar to rat nuclear ubiquitous casein
458750	AA284744	AA115496	Hs.336898	Homo sapiens, Similar to RIKEN cDNA 1810
135376	AA284784	BE617856	Hs.99756	mitochondrial ribosome recycling factor
120621	AA284840	AW961294	Hs.143818	hypothetical protein FLJ23459
452279	AA286844	AA286844	Hs.61260	hypothetical protein FLJ13164
332484	AA287032	AW172431	Hs.13012	ESTs
120644	AA287038	AI869129	Hs.96616	ESTs
120660	AA287546	AA286785	Hs.99677	ESTs
135370	AA287553	BE622187	Hs.99670	ESTs, Weakly similar to I38022 hypotheti
120661	AA287556	AA287556	Hs.263412	ESTs, Weakly similar to ALUB_HUMAN !!!!
429828	AA287564	AB019494	Hs.225767	IDN3 protein
452291	AA291015	AF015592	Hs.28853	CDC7 (cell division cycle 7, S. cerevisi
120699	AA291716	AI683243	Hs.97258	ESTs, Moderately similar to S29539 ribos
100690	AA291749	AA383256	Hs.1657	estrogen receptor 1
120726	AA293656	AA293655	Hs.21198	ESTs
120737	AA302430	AL049176	Hs.82223	chordin-like
120745	AA302809	AA302809		gb:EST10426 Adipose tissue, white I Homo
443574	AA302820	U83993	Hs.321709	purinergic receptor P2X, ligand-gated io
120750	AA310499	AI191410	Hs.96693	ESTs, Moderately similar to 2109260A B c
120761	AA321890	AA321890		branched chain keto acid dehydrogenase E
120768	AA340589	AA340589	Hs.104560	EST
120769	AA340622	AI769467	Hs.9475	ESTs
135232	AA342457	AL038812	Hs.96800	ESTs, Moderately similar to ALU7_HUMAN A
120793	AA342864	AA342864	Hs.96812	ESTs
120796	AA342973	AI247356	Hs.96820	ESTs
120809	AA346495	AA346495		gb:EST52657 Fetal heart II Homo sapiens
332633	AA347573	AL120071	Hs.48998	fibronectin leucine rich transmembrane p
120825	AA347614	AI280215	Hs.96885	ESTs
120827	AA347717	AA382525	Hs.132967	Human EST clone 122887 mariner transposo
120839	AA348913	AA348913		gb:EST55442 Infant adrenal gland II Homo

120850	AA349647	AA349647	Hs.96927	Homo sapiens cDNA FLJ12573 fis, clone NT
120852	AA349773	AA349773	Hs.191564	ESTs
128852	AA350541	R40622	Hs.106601	ESTs
135240	AA357159	AA357159	Hs.96986	EST
120870	AA357172	AA357172	Hs.292581	ESTs, Moderately similar to ALU1_HUMAN A
120894	AA370132	AA370132	Hs.97063	ESTs
435737	AA370472	AF229839	Hs.173202	I-kappa-B-interacting Ras-like protein 1
120897	AA370867	AA370867	Hs.97079	ESTs, Moderately similar to AF174605 1 F
120915	AA377296	AL135556	Hs.97104	ESTs
120935	AA383902	AL048409	Hs.97177	ESTs, Weakly similar to ALU1_HUMAN ALU S
120936	AA385934	AA385934	Hs.97184	EST, Highly similar to (defline not avai
120937	AA386255	AA386255	Hs.97186	EST
120938	AA386260	AA386260	Hs.104632	EST
417632	AA386266	R20855	Hs.5422	glycoprotein M6B
120960	AA398014	AA398014	Hs.104684	EST
120985	AA398222	AI219896	Hs.97592	ESTs
120988	AA398235	AA398235	Hs.97631	ESTs
121008	AA398348	AA398348	Hs.130546	Human DNA sequence from clone RP11-251J8
121029	AA398482	AA398482	Hs.97641	EST
121032	AA398504	AA393037	Hs.161798	ESTs
121033	AA398505	AA398505	Hs.97360	ESTs
121034	AA398507	AL389951	Hs.271623	nucleoporin 50kD
121035	AA398523	AA398523	Hs.210579	ESTs
121058	AA398625	AA398625	Hs.97391	ESTs
121060	AA398632	AA398632	Hs.97395	ESTs
121061	AA398633	AA393288	Hs.97396	ESTs
121091	AA398894	AA398894	Hs.97657	ESTs, Moderately similar to ALU8_HUMAN A
121092	AA398895	AA398895	Hs.97658	EST
121094	AA398900	AA402505		gb:zt62h10.r1 Soares_testis_NHT Homo sap
121096	AA398904	AA398904	Hs.332690	ESTs
121115	AA399122	AA398187	Hs.104682	ESTs, Weakly similar to mitochondrial ci
121121	AA399371	AA399371	Hs.189095	similar to SALL1 (sal (Drosophila)-like
121122	AA399373	AI126713	Hs.192233	ESTs, Highly similar to T00337 hypotheti
121125	AA399441	AL042981	Hs.251278	KIAA1201 protein
121151	AA399636	AA399636	Hs.143629	ESTs
121153	AA399640	AA399640	Hs.97694	ESTs
121163	AA399680	AI676062	Hs.111902	ESTs
121176	AA400080	AL121523	Hs.97774	ESTs
121192	AA400262	AA400262	Hs.190093	ESTs
121223	AA400725	AI002110	Hs.97169	ESTs, Weakly similar to dJ667H12.2.1 [H.
121227	AA400748	AA400748	Hs.97823	Homo sapiens mRNA; cDNA DKFZp434D024 (fr
121231	AA400780	AA814948	Hs.96343	ESTs, Weakly similar to ALUC_HUMAN !!!!
121278	AA401631	AA037121	Hs.98518	Homo sapiens cDNA FLJ11490 fis, clone HE
121279	AA401688	AA292873	Hs.177996	ESTs
121282	AA401695	AA401695	Hs.97334	ESTs
121299	AA402227	AA402227	Hs.22826	tropomodulin 3 (ubiquitous)
121301	AA402329	NM_006202	Hs.89901	phosphodiesterase 4A, cAMP-specific (dun
121302	AA402398	AA402587	Hs.325520	LAT1-3TM protein
121304	AA402449	AA293863	Hs.97316	EST
121305	AA402468	AA402468	Hs.291557	ESTs
134721	AA403268	AK000112	Hs.89306	hypothetical protein FLJ20105
121323	AA403314	AA291411	Hs.97247	ESTs
121324	AA404229	AA404229	Hs.97842	EST
444422	AA404260	AI768623	Hs.108264	ESTs
131074	AA404271	U16125	Hs.181581	glutamate receptor, ionotropic, kainate
121344	AA405026	AA405026	Hs.193754	ESTs
121348	AA405182	AA405182	Hs.97973	ESTs
121350	AA405237	AA405237		gb:zt06e10.s1 NCI_CGAP_GCB1 Homo sapiens
121400	AA406061	AA406061	Hs.98001	EST
121402	AA406063	AA406063	Hs.98003	ESTs
121403	AA406070	AA406070	Hs.98004	EST
121408	AA406137	AA406137	Hs.98019	EST
121431	AA406335	AA035279	Hs.176731	ESTs
121471	AA411804	AA411804	Hs.261575	ESTs
121474	AA411833	AA402335	Hs.188760	ESTs, Highly similar to Trad [H.sapiens]
121526	AA412219	AW665325	Hs.98120	ESTs
121530	AA412259	AA778658	Hs.98122	ESTs
121558	AA412497	AA412497		gb:zt95g12.s1 Soares_testis_NHT Homo sap
121559	AA412498	AI192044	Hs.104778	ESTs
121584	AA416586	AI024471	Hs.98232	ESTs
121609	AA416867	AA416867	Hs.98185	EST
121612	AA416874	AA416874	Hs.98168	ESTs
121737	AA421133	AA421133	Hs.104671	erythrocyte transmembrane protein
121740	AA421138	AA421138	Hs.143835	EST
436032	AA422079	AA150797	Hs.109276	latexin protein
121784	AA423837	T90789	Hs.94308	RAB35, member RAS oncogene family

121802	AA424328	AI251870	Hs.188898	ESTs
121803	AA424339	AI338371	Hs.157173	ESTs
135286	AA424469	AW023482	Hs.97849	ESTs
332778	AA424469	AW023482	Hs.97849	ESTs
121806	AA424502	AA424313	Hs.98402	ESTs
129517	AA425004	AW972853	Hs.112237	ESTs
121845	AA425734	AI732692	Hs.165066	ESTs, Moderately similar to ALU2_HUMAN A
121853	AA425887	AA425887	Hs.98502	hypothetical protein FLJ14303
121891	AA426456	AA426456	Hs.98469	ESTs
121895	AA427396	AA427396		gb:zw33a02.s1 Soares ovary tumor NbHOT H
121899	AA427555	R55341	Hs.50421	KIAA0203 gene product
121917	AA428218	AA406397	Hs.139425	ESTs
121918	AA428242	BE274689	Hs.184175	chromosome 2 open reading frame 3
121919	AA428281	AA428281	Hs.98560	EST
121941	AA428865	AA428865	Hs.98563	ESTs
121942	AA428994	AW452701	Hs.293237	ESTs
121970	AA429666	AA429666	Hs.98617	EST
121993	AA430181	AW297880	Hs.98661	ESTs
418706	AA430184	U73524	Hs.87465	ATP/GTP-binding protein
122022	AA431293	AA431293	Hs.98716	ESTs, Moderately similar to T42650 hypot
122050	AA431478	AI453076		ELAV (embryonic lethal, abnormal vision,
122051	AA431492	AA431492	Hs.98742	EST
122055	AA431732	AA431732	Hs.98747	EST
122105	AA432278	AW241685	Hs.98699	ESTs
122125	AA434411	AK000492	Hs.98806	hypothetical protein
135235	AA435512	AW298244	Hs.266195	ESTs
122162	AA435698	AA628233	Hs.79946	cytochrome P450, subfamily XIX (aromatiz
422072	AA435711	AB018255	Hs.111138	KIAA0712 gene product
415106	AA435815	U40763	Hs.77965	peptidyl-prolyl isomerase G (cyclophilin
122186	AA435842	AA398811	Hs.104673	ESTs
122235	AA436475	AA436475	Hs.112227	membrane-associated nucleic acid binding
412970	AA436489	AB026436	Hs.177534	dual specificity phosphatase 10
419288	AA442060	AA256106	Hs.87507	ESTs
122310	AA442079	AW192803	Hs.98974	ESTs, Weakly similar to S65824 reverse t
122334	AA443151	BE465894	Hs.98365	ESTs, Weakly similar to LB4D_HUMAN NADP-
122382	AA446133	AA446440	Hs.98643	ESTs
122425	AA447145	AB007859	Hs.100955	KIAA0399 protein
122431	AA447398	AA447398	Hs.99104	ESTs
122450	AA447643	AA447643	Hs.112095	hypothetical protein DKFZp434F1819
426284	AA447742	AJ404468	Hs.284259	dynein, axonemal, heavy polypeptide 9
122477	AA448226	AA448226	Hs.324123	ESTs
122500	AA448825	AA448825	Hs.99190	ESTs
122522	AA449444	AA299607	Hs.98969	ESTs
122536	AA450087	AF060877	Hs.99236	regulator of G-protein signalling 20
122538	AA450211	AA450211	Hs.99239	ESTs
122540	AA450244	AA476741	Hs.98279	ESTs, Weakly similar to A43932 mucin 2 p
122560	AA452123	AW392342	Hs.283077	*centrosomal P4.1-associated protein; unc*
421919	AA452155	AJ224901	Hs.109526	zinc finger protein 198
122562	AA452156	AA452156		gb:zx29c03.s1 Soares_total_fetus_Nb2HF8_
122585	AA453036	AI681654	Hs.170737	hypothetical protein FLJ23251
122608	AA453526	AA453525	Hs.143077	ESTs
122635	AA454085	AA454085		gb:zx33a08.s1 Soares_total_fetus_Nb2HF8_
122636	AA454103	AW651706	Hs.99519	hypothetical protein FLJ14007
122653	AA454642	AW009166	Hs.99376	ESTs
122660	AA454935	AI816827	Hs.180069	nuclear respiratory factor 1
122703	AA456323	AA456323	Hs.269369	ESTs
122724	AA457395	AA457395	Hs.99457	ESTs
122749	AA458850	AA458850	Hs.293372	ESTs, Weakly similar to B34087 hypotheti
122772	AA459662	AW117452	Hs.99489	ESTs
430242	AA459668	U66669	Hs.236642	3-hydroxyisobutyryl-Coenzyme A hydrolase
429838	AA459679	AW904907	Hs.30732	hypothetical protein FLJ13409; KIAA1711
122777	AA459702	AK001022	Hs.214397	hypothetical protein FLJ10160 similar to
135362	AA460017	AA978128	Hs.99513	ESTs, Weakly similar to T17454 diaphanou
122798	AA460324	AW366286	Hs.145696	splicing factor (CC1.3)
122837	AA461509	AA461509	Hs.293565	ESTs, Weakly similar to putative p150 [H
122860	AA464414	AA464414		*gb:zx78g01.s1 Soares ovary tumor NbHOT H*
122861	AA464428	AA335721	Hs.213628	ESTs
122910	AA470084	AA470084	Hs.98358	ESTs
132899	AA476606	AA476606	Hs.59666	SMAD in the antisense orientation
122967	AA478521	AA806187	Hs.289101	glucose regulated protein, 58kD
422845	AA478523	AA317841	Hs.7845	hypothetical protein MGC2752
123009	AA479949	AA535244	Hs.78305	RAB2, member RAS oncogene family
128917	AA481252	AI365215	Hs.206097	oncogene TC21
123081	AA485351	AI815486	Hs.243901	Homo sapiens cDNA FLJ20738 fis, clone HE
123133	AA487264	AA487264	Hs.154974	Homo sapiens mRNA; cDNA DKFZp667N064 (fr
123184	AA489072	BE247767	Hs.18166	KIAA0870 protein

332467	AA489630	NM_014700	Hs.119004	KIAA0665 gene product
123233	AA490225	AW974175	Hs.151875	ESTs, Weakly similar to MAPB_HUMAN MICRO
123234	AA490227	NM_001938	Hs.16697	down-regulator of transcription 1, TBP-b
123236	AA490255	AW968504	Hs.123073	CDC2-related protein kinase 7
123255	AA490890	AA830335	Hs.105273	ESTs
430015	AA490916	AW768399	Hs.106357	ESTs
448892	AA490925	AF084535	Hs.22464	epilepsy, progressive myoclonus type 2,
123259	AA490955	AI744152	Hs.283374	ESTs, Weakly similar to CA15_HUMAN COLLA
123284	AA495812	AA488988	Hs.293796	ESTs
123286	AA495824	AA495824	Hs.188822	ESTs, Weakly similar to A46010 X-linked
123315	AA496369	AA496369		gb:zv37d10.s1 Soares ovary tumor NbHOT H
457397	AA504125	AW969025	Hs.109154	ESTs
433049	AA521473	AU076668	Hs.334884	SEC10 (S. cerevisiae)-like 1
123421	AA598440	AA598440	Hs.291154	EST, Weakly similar to I38022 hypothetic
123449	AA598899	AL049325	Hs.112493	Homo sapiens mRNA; cDNA DKFZp564D036 (fr
426981	AA599244	AL044675	Hs.173081	KIAA0530 protein
409986	AA599694	NM_014777	Hs.57730	KIAA0133 gene product
123497	AA600037	AA765256	Hs.135191	ESTs, Weakly similar to unnamed protein
123604	AA609135	AA609135	Hs.293076	ESTs
123712	AA609684	AA609684		Homo sapiens cDNA: FLJ21543 fis, clone C
123731	AA609839	AA609839	Hs.334437	gb:ae62f01.s1 Stratagene lung carcinoma
123800	AA620423	AA620423	Hs.112862	EST
123841	AA620747	AA620747	Hs.112896	ESTs
123929	AA621364	AA621364	Hs.112981	ESTs
123978	C20653	T89832	Hs.170278	ESTs
133184	D20085	AA001021	Hs.6685	thyroid hormone receptor interactor 8
132835	D20749	Z83844	Hs.5790	hypothetical protein dJ37E16.5
435147	D51285	AL133731	Hs.4774	Homo sapiens mRNA; cDNA DKFZp761C1712 (f
128695	D59972	NM_003478	Hs.101299	cullin 5
124029	F04112	F04112	Hs.312553	gb:HSC2JH062 normalized infant brain cDN
124057	F13604	AA902384	Hs.73853	bone morphogenetic protein 2
449316	H01662	AI609045	Hs.321775	hypothetical protein DKFZp434D1428
130973	H05135	AI638418	Hs.1440	DEAD/H (Asp-Glu-Ala-Asp/His) box polypep
124106	H12245	H12245		gb:ym17a12.r1 Soares infant brain 1NIB H
124136	H22842	H22842	Hs.101770	EST
124165	H30894	H30039	Hs.107674	ESTs
429627	H43442	NM_015340	Hs.2450	leucyl-tRNA synthetase, mitochondrial
124178	H45996	BE463721	Hs.97101	putative G protein-coupled receptor
129948	H69281	AI537162	Hs.263988	ESTs
452114	H69485	N22687	Hs.8236	ESTs
124+D826254		H69899	H69899	gb:yu70c12.s1 Weizmann Olfactory Epithel
129056	H70627	AI769958	Hs.108336	ESTs, Weakly similar to ALUE_HUMAN !!!!
427580	H73260	AK001507	Hs.44143	Homo sapiens clone FLB6914 PRO1821 mRNA,
426793	H77531	X89887	Hs.172350	HIR (histone cell cycle regulation defec
124274	H80552	H80552	Hs.102249	EST
129078	H80737	AI351010	Hs.102267	lysosomal
457658	H93412	AW952124	Hs.13094	presenilins associated rhomboid-like pro
124315	H94892	NM_005402	Hs.288757	v-ral simian leukemia viral oncogene hom
437712	H95643	X04588	Hs.85844	neurotrophic tyrosine kinase, receptor,
124324	H96552	H96552	Hs.159472	Homo sapiens cDNA: FLJ22224 fis, clone H
452933	H97146	AW391423	Hs.288555	Homo sapiens cDNA: FLJ22425 fis, clone H
132231	H99131	AA662910	Hs.42635	hypothetical protein DKFZp434K2435
421877	H99462	AW250380	Hs.109059	mitochondrial ribosomal protein L12
443123	H99837	AA094538	Hs.272808	putative transcription regulation nuclea
132963	N22140	AA099693	Hs.34851	epsilon-tubulin
420473	N22197	AL118782	Hs.300208	Sec23-interacting protein p125
417381	N23756	AF164142	Hs.82042	solute carrier family 23 (nucleobase tra
130365	N24134	W56119	Hs.155103	eukaryotic translation initiation factor
456610	N24195	AF172066	Hs.106346	retinoic acid repressible protein
439311	N26739	BE270668	Hs.151945	mitochondrial ribosomal protein L43
124383	N27098	N27098	Hs.102463	EST
124387	N27637	N27637	Hs.109019	ESTs
129341	N33090	AI193519	Hs.226396	hypothetical protein FLJ11126
419793	N35967	AI364933	Hs.168913	serine/threonine kinase 24 (Ste20, yeast
124433	N39069	AA280319	Hs.288840	PRO1575 protein
124441	N46441	AW450481	Hs.161333	ESTs
132338	N48270	AA353868	Hs.182982	golgin-67
436575	N48365	AI473114		ESTs
124466	N51316	R10084	Hs.113319	kinesin heavy chain member 2
408048	N51499	NM_007203	Hs.42322	A kinase (PRKA) anchor protein 2
124483	N53976	AI821780	Hs.179864	ESTs
124484	N54157	H66118	Hs.285520	ESTs, Weakly similar to 2109260A B cell
124485	N54300	AB040933	Hs.15420	KIAA1500 protein
124494	N54831	N54831	Hs.271381	ESTs, Weakly similar to I38022 hypotheti
129200	N59849	N59849	Hs.13565	Sam68-like phosphotyrosine protein, T-ST
124527	N62132	N79264	Hs.269104	ESTs

124532	N62375	N62375	Hs.102731	EST
133213	N63138	AA903424	Hs.6786	ESTs
124539	N63172	D54120	Hs.146409	cell division cycle 42 (GTP-binding prot
129196	N63787	BE296313	Hs.265592	ESTs, Weakly similar to I38022 hypotheti
124575	N68168	N68168		gb:za11c01.s1 Soares fetal liver spleen
124576	N68201	N68201		ESTs, Weakly similar to I38022 hypotheti
124577	N68300	N68300	Hs.138485	gb:za12g07.s1 Soares fetal liver spleen
124578	N68321	N68321	Hs.231500	EST
124593	N69575	N69575	Hs.102788	ESTs
128501	N75007	AL133572	Hs.199009	protein containing CXXC domain 2
332434	N75542	AI680737	Hs.289068	Homo sapiens cDNA FLJ11918 fis; clone HE
128473	N90066	T78277	Hs.100293	O-linked N-acetylglucosamine (GlcNAc) tr
128639	N91246	AW582962	Hs.102897	CGI-47 protein
124652	N92751	W19407	Hs.3862	regulator of nonsense transcripts 2; DKF
133137	N93214	AB002316	Hs.65746	KIAA0318 protein
124671	N99148	AK001357	Hs.102951	Homo sapiens cDNA FLJ10495 fis, clone NT
133054	R07876	AA464836	Hs.291079	ESTs, Weakly similar to T27173 hypotheti
425266	R10865	J00077	Hs.155421	alpha-fetoprotein
124720	R11056	R05283		gb:ye91c08.s1 Soares fetal liver spleen
124722	R11488	T97733	Hs.185685	ESTs
128944	R23930	AL137586	Hs.52763	anaphase-promoting complex subunit 7
132965	R26589	AI248173	Hs.191460	hypothetical protein MGC12936
426504	R37588	AW162919	Hs.170160	RAB2, member RAS oncogene family-like
438828	R37613	AL134275	Hs.6434	hypothetical protein DKFZp761F2014
124757	R38398	H11368	Hs.141055	Homo sapiens clone 23758 mRNA sequence
124762	R39179	AA553722	Hs.92096	ESTs, Moderately similar to A46010 X-lin
124773	R40923	R45154	Hs.338439	ESTs
135266	R41179	R41179	Hs.97393	KIAA0328 protein
427961	R41294	AW293165	Hs.143134	ESTs
414303	R42307	NM_004427	Hs.165263	early development regulator 2 (homolog o
128540	R43189	AW297929	Hs.328317	EST
124785	R43306	W38537	Hs.280740	hypothetical protein MGC3040
124792	R44357	R44357	Hs.48712	hypothetical protein FLJ20736
124793	R44519	R44519		gb:yg24h04.s1 Soares infant brain 1NIB H
124799	R45088	R45088		gb:yg38g04.s1 Soares infant brain 1NIB H
124812	R47948	R47948	Hs.188732	ESTs
124821	R51524	H87832	Hs.7388	kelch (Drosophila)-like 3
424123	R54950	AW966158	Hs.58582	Homo sapiens cDNA FLJ12789 fis, clone NT
124835	R55241	R55241	Hs.101214	EST
124845	R59585	R59585	Hs.101255	ESTs
124847	R60044	W07701	Hs.304177	Homo sapiens clone FLB8503 PRO2286 mRNA,
440630	R60872	BE561430	Hs.239388	Human DNA sequence from clone RP1-304B14
124861	R66690	R67567	Hs.107110	ESTs
332503	R67266	NM_004455	Hs.150956	exostoses (multiple)-like 1
124879	R73588	R73588	Hs.101533	ESTs
124892	R79403	AI970003	Hs.23756	hypothetical protein similar to swine ac
124906	R87647	H75964	Hs.107815	ESTs
124922	R93622	R93622	Hs.12163	eukaryotic translation initiation factor
124940	R99599	AF068846	Hs.103804	heterogeneous nuclear ribonucleoprotein
124941	R99612	AI766661	Hs.27774	ESTs, Highly similar to AF161349 1 HSPC0
124943	T02888	AW963279	Hs.123373	ESTs, Weakly similar to ALU1_HUMAN ALU S
124947	T03170	T03170	Hs.100165	ESTs
124954	T10465	AW964237	Hs.6728	KIAA1548 protein
456862	T15418	U55184	Hs.154145	hypothetical protein FLJ11585
410653	T15597	BE383768	Hs.65238	95 kDa retinoblastoma protein binding pr
418133	T15652	R43504	Hs.6181	ESTs
440014	T16898	AW960782	Hs.6856	ash2 (absent, small, or homeotic, Drosop
131082	T26644	AI091121	Hs.246218	Homo sapiens cDNA: FLJ21781 fis, clone H
124980	T40841	T40841	Hs.98681	ESTs
124984	T47566	BE313210	Hs.334798	eukaryotic translation elongation factor
124991	T50116	T50116		gb:yb77c10.s1 Stratagene ovary (937217)
457222	T50145	NM_004477	Hs.203772	FSHD region gene 1
125000	T58615	T58615	Hs.235887	ESTs
132932	T59940	AW118826	Hs.6093	Homo sapiens cDNA: FLJ22783 fis, clone K
444484	T63595	AK002126	Hs.11260	hypothetical protein FLJ11264
125008	T64891	T91251		gb:yd60a10.s1 Soares fetal liver spleen
125009	T64924	T64924	Hs.303046	ESTs
445384	T64933	T79136	Hs.127243	Homo sapiens mRNA for KIAA1724 protein,
125017	T68875	T68875		gb:yc30f05.s1 Stratagene liver (937224)
125018	T69027	T69027	Hs.269481	sex comb on midleg homolog 1
125020	T69924	T69981		gb:yc19d03.r1 Stratagene lung (937210) H
437871	T70353	AI084813	Hs.114088	ESTs
134204	T79780	AI873257	Hs.7994	hypothetical protein FLJ20551
125050	T79951	AW970209	Hs.111805	ESTs
125052	T80174	T85104	Hs.222779	ESTs, Moderately similar to similar to N
125054	T80622	T80622	Hs.268601	ESTs, Weakly similar to envelope [H.sapi

125063	T85352	T85352		gb:yd82d01.s1 Soares fetal liver spleen
125064	T85373	T85373		gb:yd82f07.s1 Soares fetal liver spleen
125066	T86284	T86284		gb:yd77b07.s1 Soares fetal liver spleen
416507	T89579	AL045364	Hs.79353	transcription factor Dp-1
125080	T90360	T90360	Hs.268620	ESTs, Highly similar to ALU6_HUMAN ALU S
125097	T94328	AW576389	Hs.335774	EST, Moderately similar to S65657 alpha-
125104	T95590	T95590		gb:ye40a03.s1 Soares fetal liver spleen
135107	T97257	T97257	Hs.94560	ESTs, Moderately similar to I38022 hypot
423122	T97599	AA845462	Hs.124024	deltex (Drosophila) homolog 1
125118	T97620	R10606	Hs.269890	gb:yf35f11.s1 Soares fetal liver spleen
125120	T97775	T97775	Hs.100717	EST
134160	T98152	T98152	Hs.79432	fibrillin 2 (congenital contractural ara
125136	W31479	AW962364	Hs.129051	ESTs
125144	W37999	AB037742	Hs.24336	KIAA1321 protein
125150	W38240	W38240		Empirically selected from AFFX single pr
450142	W40150	AW207469	Hs.24485	chondroitin sulfate proteoglycan 6 (bama
131987	W45435	AW453069	Hs.3657	activity-dependent neuroprotective prote
125178	W58202	W93127	Hs.31845	ESTs
125180	W58344	W58469	Hs.103120	ESTs
125182	W58650	AA451755	Hs.263560	ESTs
446888	W68736	AL030996	Hs.16411	hypothetical protein LOC57187
125197	W69106	AF086270	Hs.278554	heterochromatin-like protein 1
133497	W69111	BE617303	Hs.74266	hypothetical protein MGC4251
429922	W69399	Z97630	Hs.226117	H1 histone family, member 0
129232	W69459	R98881	Hs.109655	sex comb on midleg (Drosophila)-like 1
422166	W72424	W72424	Hs.112405	S100 calcium-binding protein A9 (calgran
125209	W72724	W72724	Hs.103174	ESTs, Weakly similar to TSP2_HUMAN THROM
125212	W72834	AA746225	Hs.103173	ESTs
456631	W73955	BE383436	Hs.108847	hypothetical protein MGC2749
125223	W74701	AI916269	Hs.109057	ESTs, Weakly similar to ALU5_HUMAN ALU S
125225	W76540	W74169	Hs.16492	DKFZP564G2022 protein
125228	W79397	AA033982	Hs.110059	ESTs, Weakly similar to I38022 hypotheti
132393	W85888	AL135094	Hs.47334	hypothetical protein FLJ14495
125238	W86038	N99713	Hs.109514	ESTs
125247	W86881	AA694191	Hs.163914	ESTs
129296	W87804	AI051967	Hs.110122	ESTs
125263	W88942	AA098878		gb:zn45g10.r1 Stratagene HeLa cell s3 93
125266	W90022	W90022	Hs.186809	ESTs, Highly similar to LCT2_HUMAN LEUKO
450862	W92272	U91543	Hs.25601	chromodomain helicase DNA binding protei
452401	W92764	NM_007115	Hs.29352	tumor necrosis factor, alpha-induced pro
428243	W93040	H05317	Hs.283549	ESTs
125277	W93227	W93227	Hs.103245	EST
125278	W93523	AI218439	Hs.129998	enhancer of polycomb 1
125280	W93659	AI123705	Hs.106932	ESTs
448205	W94003	W93949	Hs.33245	ESTs
131844	W94401	AI419294	Hs.324342	ESTs
125284	W94688	NM_002666	Hs.103253	perilipin
417111	W94787	AW016321	Hs.82306	destrin (actin depolymerizing factor)
445424	Z38294	AB028945	Hs.12696	cortactin SH3 domain-binding protein
125289	Z38311	T34530	Hs.4210	Homo sapiens cDNA FLJ13069 fis, clone NT
446313	Z38465	H06245	Hs.106801	ESTs, Weakly similar to PC4259 ferritin
431342	Z38525	AW971018	Hs.21659	ESTs
433227	Z38538	AB040923	Hs.106808	kelch (Drosophila)-like 1
428306	Z38551	AB037715	Hs.183639	hypothetical protein FLJ10210
424624	Z38783	AB032947	Hs.151301	Ca2+dependent activator protein for secr
125295	Z39113	AB022317	Hs.25887	sema domain, immunoglobulin domain (Ig),
125298	Z39255	AW972542	Hs.289008	Homo sapiens cDNA: FLJ21814 fis, clone H
125300	Z39591	Z39591	Hs.101376	EST
448378	Z39783	BE622770	Hs.264915	Homo sapiens cDNA FLJ12908 fis, clone NT
444582	Z39920	R55344	Hs.22142	cytochrome b5 reductase b5R.2
130882	Z40166	AA497044	Hs.20887	hypothetical protein FLJ10392
128888	Z40388	AI760853	Hs.241558	ariadne (Drosophila) homolog 2
125310	Z40646	R59161	Hs.124953	ESTs
125315	Z41697	R38110	Hs.106296	ESTs
125317	Z99349	Z99348	Hs.112461	ESTs, Weakly similar to I38022 hypotheti
135096	Z99394	AA081258		zinc finger protein 36 (KOX 18)

TABLE 3A

Table 3A shows the accession numbers for those pkeys lacking unigeneID's for Table 3. The pkeys in Table 7 lacking unigeneID's are represented within Tables 1-6A. For each probeset we have listed the gene cluster number from which the oligonucleotides were designed. Gene clusters were compiled using sequences derived from Genbank ESTs and mRNAs. These sequences were clustered based on sequence similarity using Clustering and Alignment Tools (DoubleTwist, Oakland California). The Genbank accession numbers for sequences comprising each cluster are listed in the "Accession" column.

Pkey:	Unique Eos probeset identifier number
CAT number:	Gene cluster number
Accession:	Genbank accession numbers

Pkey	CAT Number	Accession
108469	116761_1	AA079487 AA128547 AA128291 AA079587 AA079600
124106	125446_1	H12245 AA094769 R14576
108501	13684_-12	AA083256
108562	36375_1	AA100796 AF020589 AA074629 AA075946 AA100849 AA085347 AA126309 AA079311 AA079323 AA085274
101300	4669_1	BE535511 M62098 AA306787 AW891766 AA348998 AA338869 AA344013 AW956561 AW389343 AW403607 L40391 AW408435 AA121738 AI568978 H13317 R20373 AW948724 AW948744 AA335023 AA436722 AA448690 C21404 AW884390 AA345454 AA303292 AA174174 BE092290 T90614 AA035104 R76028 AA126924 AA741086 AW022056 AW118940 AA121666 AI832409 AA683475 AI140901 AI623576 AW519064 AW474125 AI953923 AI735349 AW150109 AI436154 AW118130 AW270782 AI804073 N27434 AA876543 AA937815 AI051166 AA505378 AI041975 AI335355 AI089540 AA662243 AI127912 AI925604 AI250880 AI366874 AI564386 AI815196 AI683526 AI435885 AI160934 H79030 AI801493 AA448691 AI673767 AI076042 AI804327 AA813438 AA680002 AI274492 T16177 AI287337 AI935050 AA907805 AA911493 AI589411 AI371358 AW576236 AI078866 AW516168 AA346372 AI560185 AA471009 R75857 AA296025 AA523155 AA853168 AI696593 AI658482 AI566601 AW072797 AA128047 AA035502 AW243274 AA992517 R43760
132091	94851_1	AW954243 AA829930 AA412478 AA828434 AA814538 AI927418 AI192435 W52897 AA443666 AA031913 AI683306 AA918481 AI183314 D83907 AI206832 AA876122 D83836 D83838 D82533 AI761290 AI191125 AI143749 AW771909 AI241436 AI767267 W56507 AA847787 AA568692 T10502 AI247870 AA715017 AA643304 AA890233 AA811387 AA897470 AA907729 AI708679 AI078010 AA452830 AW419160 AI783713 N80205 W56778 AA676899 AI888718 N69930 AI338935 AI217580 AA639508 AA575836 BE046852 AI312651 AI038406 AA628649 AA643838 AI493761 AA032024 W38849 AA340178 AA447052 AA452969 W19369 AA296364 H44229 W58767 C05751 C05835 AI741989 N98532 AW102617 AA412583 AI922246 W38495 AA355375 AA928571 C06275 AA352500 N93132
117034	20113_2	U72209 NM_005748 AI655607 AI052758 AA385199 AW956794 H88679 AL135153 AI765644 AA384399 AW966458 AA568443 AA804610 AI873513 H88639 Z25371 R63456 W44919
100752	33207_21	T81309 BE019033 R94181 BE019198 NM_000612 J03242 AW411299 BE300064 BE297544 R94182 AW630108 T53723 D58853 H78073 H80594 BE299560 T48899 H70196 M17426 N77077 S77035 H58384 H61664 H78540 T84527 C17198 H60255 H71980 R92644 W79050 X00910 M29645 R91055 M17863 M17862 T71815 BE299561 BE464561 X06260 R94741 T54216 C18594 BE262015 X06161 AW409889 AA378400 BE263228 BE313278 R88116 BE313457 H43500 T48617 BE313761 H77309 AI207601 X06159 H40413 X03425 T87663 R10627 X03562 M14118 W03982 R97520 H81229 T83157 H83168 H48762 AA669898 BE263054 H47289 AA022807 R11555 H74260 R76968 R28338 H72534 H72464 H62031 N72478 N45355 AW411300 R89113 R69135 H58454 T83281 R93476 H69645 H68015 T82229 H71089 T85121 H59939 W65299 N78176 H53909 N72373 R21788 H04660 H59639 H61874 BE262219 T53614 N73335 N50464 W00943 N77189 R89257 AA570502 R89432 R06366 AA553480 AA776271 AA551359 AA551050 H51670 AA601052 BE299081 H68198 H52276 BE207832 N91192 H70332 X07868 X07868 H69464 H53782 H73710 R80435 AA553384 AW884176 N53475 T71662 AW954036 AW954033 AA552931 H93206 AA430218 AA553476 AI918470 T54124 BE207982 BE300177 N73994 AW882625 N39549 N53838 AA722389 H71878 H58909 H37849 H78435 T47933 R77174 R83814 AA411890 H94199 AA663208 BE205778 AA490137 H70492 R98232 H37800 AA679294 H40341 H74238 H47290 H73231 T48618 AA025428 AI039521 H92969 N59389 H80538 H72933 T90630 AA411891 N55000 H74225 AA340290 AW957061 T54316 AA340437 H57125 H58908 H79027 H63450 N74623 R93425 H68714 H68758 N68396 H48763 N69256 H57320 H53831 H53589 N68833 N52453 H56048 H69870 H78074 R69253 R83375 T53615 H94330 H58455 H90864 T47934 H74261 R89258 R97997 R91056 R28339 R86760 H78235 R97521 H67692 H40358 AA022688 H52513 H59601 T88690 H65256 H63397 W65397 AA553588 R19280 N52645 W73930 R06367 R21743 H72372 N73921 AW883539 AW882639 T40616 H47084 R95723 AA634316 AA862781 H77310 R91389 H93111 R92767 T54512 R89341 H70333 H57817 H82941 H62032 N52638 H58385 T91796 H51086 AA340292 T49918 H81230 R36121 N50411 T87664 N62436 N39340 AA665637 AA340446 H93377 H92973 BE296290 BE269788 H61665 AA340444 N54605 AA454101 R10628 R94200 AI200549 AA342640 BE298855 BE250229 T49916 H82008 N28278 AW880662 H71268 N76791 H47685 H65255 W05198 AW889144 N76677 H71702 H68036 H71915 R91612 R87807 H68059 AI133328 AI247866 AA621443 AW881050 AA700847 AA340413 AW878608 AW881181 AW878249 H71916 N54596 BE161581 AW878082 W04212 AW881040 AW885492 AW880519 AA334887 AW878715 W06882 AW630222 AW885381 H70869 AW381778 H47601 AW889982 H63868 AW884986 AW878713 AW878685 R36391 AW878694 AA368070 C03393 AW878695 AW878705 AW878665 AW878742 AW878620 AW878823 AW878688 R29048 AW878690 AW878686 AW878810 AW878827 AW878733 AW878659 AW878749 AW878681 AW883353 AW883277 AW883300 AW883565 AW883298 AW883143 AW883045 AW883482 AW883352 AW883417 AW883357 AW883231 AW883474 AW883355 AW882620 AW882533 AW883754 AW883139 AW882827 AW883641 AW883567 AW883481 AW882983 AW882982 AW882465 AW883419 AW882466 AW883639 AW883230 AW882981 AW882534 AW882874 AW882619 AW883480 AW882826 AW882831 AW882835 AW882830 AW883563 AW882456 AW627642
116417	5418_11	AW499664 AW500888 AL042095 AW576556 AW265424 AI521500 AA761333 AA761319 AW291137 AA649040 AA769094 AA489664 AA635311 AW070509 AA425658 AI381489 AA609309 AA134476 W74704 AI923640 AW084888 H45700 AI985564 AW629495 AW614573 AI859571 AI693486 AA913892 AI806164 AA909524 AW263513 AI356361 Z40708

		AI332765 AI392620 AA181060 AW118719 AW968804 AW263502 AW505314 AA036967 W74741 R51139 H19364 H45751 Z44962 AW370823 H25650 T54007 AA453000 AL045739
123712	374423_1	AA609684 AA758732
117156	145392_1	W73853 AA928112 W77887 AW889237 AA148524 AI749182 AI754442 AI338392 AI253102 AI079403 AI370541 AI697341 H97538 AW188021 AI927669 W72716 AI051402 AI188071 AI335900 N21488 AW770478 W92522 AI691028 AI913512 AI144448 W73819 AA604358 N28900 W95221 AI868132 H98465 AA148793
125008	1802095_1	T91251 T64891 T85665
125020	116017_1	T69981 T69924 AA078476
125066	1814993_1	T86284 T81933
116661	1532859_1	R61504 F04247
125104	413347_1	T95590 AA703278 H62764
124575	1666649_1	N68168 N69188 N90450
125263	1547_2	AA098878 W88942
131859	3672_1	AW960564 AA092457 T55890 D56120 T92525 AI815987 BE182608 BE182595 AW080238 M90657 AA347236 AW961686 AW176446 AA304671 AW583735 T61714 AA316968 AI446615 AA343532 AA083489 AA488005 W52095 W39480 N57402 D82638 W25540 W52847 D82729 D58990 BE619182 AA315188 AA308636 AA112474 W76162 AA088544 H52265 AA301631 H80982 AA113786 BE620997 AW651691 AA343799 BE613669 BE547180 BE546656 F11933 AA376800 AW239185 AA376086 BE544387 BE619041 AA452515 AA001806 AA190873 AA180483 AA159546 F00242 AI940609 AI940602 AI189753 T97663 T66110 AW062896 AW062910 AW062902 AI051622 AI828930 AA102452 AI685095 AI819390 AA557597 AA383220 AI804422 AI633575 AW338147 AW603423 AW606800 AW750567 AW510672 AI250777 AA083510 AW629109 AW513200 AA921353 AI677934 AI148698 AI955858 AA173825 AA453027 AI027865 AW375542 AA454099 AA733014 AI591384 R79300 R80023 AA843108 AA626058 AA844898 AW375550 AA889018 AI474275 AW205937 AI052270 AW388117 AW388111 AA699452 AI242230 N47476 H38178 AA366621 AA113196 AA130023 H39740 T61629 AI885973 AW083671 AA179730 AA305757 AI285455 N83956 AA216013 AA336155 AW999959 T97525 AA345349 T91762 AA771981 AI285092 AI591386 BE392486 BE385852 AA682601 AI682884 AA345840 T85477 AA292949 AA932079 AA098791 D82607 T48574 AW752038 C06300
125565	1704098_1	R20840 R20839
132983	11922_1	M30269 NM_002508 X82245 AI078760 AW957003 D78945 M27445 AA650439 AL048816 AV660256 AV660347 AA333052 BE295257 T60999 AA383049 AW369677 Z26985 AW175704 AA343326 AW747957 AI818389 W17308 W17302 H15591 AA371284 AA370412 W94966 BE384365 T28498 R80714 R16959 H21723 AW835154 D56097 D56381 W21232 AA190565 AW379755 AW067895
118584	532052_1	AW136928 AI685655 BE218584 BE465078 N68963 AA975338 BE147199 N76377
133607	1227_6	BE273749 BE397561 BE387189 AL037858 AL037878 AI963094 BE259216 AA011363 AL036189 BE562325 AA251169 BE617431 N98537 AA158093 AL047800 M34539 NM_000801 AA312140 D16971 AA158904 AA307114 AA312803 T09203 AW629686 AL048504 BE388578 AA220957 AA158364 BE267385 AA294971 C18055 BE241757 AA115056 AI936769 BE378435 BE206971 AW674924 BE622060 AA604674 AA115273 AW402159 AA338608 BE568819 M80199 X55741 AA375111 AA376016 BE612671 AA805742 AW405588 N25850 N44580 H06031 AW403549 BE536552 AA056726 BE543239 AA082517 AI201645 AI201642 AI192622 N40104 AA370921 BE547569 AI969602 AA302038 AI197890 AW268354 AI014938 W45448 AI541395 AA037272 BE538826 AL039613 BE536130 AA299355 AW805147 AW974624 H53220 AI471471 AA399303 AA007386 W35106 BE613277 R12739 R12738 AA304342 AA687802 BE409581 AI498844 AV662092 AW904105 AA011375 BE315214 H99302 BE537893 N32299 AW855829 AI291320 BE078322 AI301395 AA303362 N32719 AA358328 AA357877 AI952540 H56279 H02758 H02048 AW805233 R82224 AA410772 AA291352 BE171109 N69935 BE169248 AA361173 H44978 BE617887 D52560 AA084043 W03595 R67219 N36477 N42924 R67104 H44901 H79695 W21105 AA393988 W30899 AA316096 BE622896 W46872 AA442678 BE544893 BE540112 BE621873 AA338067 N55052 BE398154 BE621210 AA740760 C03739 C03206 BE396692 AA482370 AA031614 AA301575 AA304710 AA132153 AA029796 AA994960 H19567 AA442969 H49781 H46871 AA035395 AA056185 AA149378 AA643080 AL135479 AA292329 AA654337 AA041228 AA454888 AA025039 W58331 AA625981 T94941 AA302448 H19900 AA218956 AA513790 AA563962 AA398076 W44441 AA293276 W47373 AA625879 W30688 AA043029 T64284 R79151 AA304340 AA485186 AA604939 R82470 AA421425 AW771456 AI339329 AA304424 AA605236 AA936934 AA587673 AI209162 AI697301 AI479995 AI679814 AI361950 AW189125 AI955888 AI986019 BE301019 AI084792 AI310211 AW189307 AI022070 AW977204 AI146825 AW190163 AW303281 AI828345 BE046043 AW029257 AA482268 AI246507 AI420729 AW084932 AW439514 AI890487 AW439692 AI523896 AI186612 AI659953 AI889773 AA687527 AW072694 AW262153 AW467371 AI613269 AI679238 D54404 AA158103 AW105527 AW149739 AW150361 AW268387 AW117708 AI951682 AI687440 AW674285 AA678365 AI587082 AA732095 AA019899 W45661 AA627300 BE613304 AA765891 AA612935 AI814658 AW316916 R66594 AA514640 AA025040 AA031472 AW732076 AA029797 AI244560 AI128734 AW381720 AI092360 AI263283 AW613175 AI890675 AI720156 AW631348 AI635106 AI278045 AA303979 AA703505 W45449 AW078661 AI292052 AW381707 AI147854 AW381743 AA158905 AA303258 AA888144 AW195967 AA428706 AA989559 AA617731 H19882 BE543418 AA830386 AA421302 W58652 T94995 AI869743 AI679145 AW085971 N98425 AA765136 AI347027 AI356955 AA928038 AI679717 AA458459 AA679281 AI367973 AI270041 AA765135 AA732793 AI798447 AA668646 AA251008 AI984538 AI401737 AA056186 BE043308 AW662375 AI302110 N50724 W96332 BE537047 N26983 AI567172 AA765296 AW673237 N29784 AA534275 AA084044 AW067973 AW300766 T63398 W46823 R39790 AI364185 AW298582 AA454814 AW069878 N67751 H05982 N23140 AI362647 AI302086 AI767772 N25755 H53114 AA706133 T93511 AA429291 AA935294 AA987647 W02803 R66595 AI680795 W23673 AW440794 AA722872 H49538 AW131042 AA531603 AA908665 AA040791 AA235312 W52205 N93444 R82180 H02759 H79696 AW088894 H56079 AA961143 AW067776 AW973745 AA016311 AW071227 AA017511 AI753994 W47374 T64155 AA296092 AI698626 AA558158 AA296088 AW794259 H01963 AA149267 AA485076 AA975856 H44938 AA035396 AI955555 H46289 AA486161 AI631222 AA359047 AW794253 AI806962 AW243930 AA526145 AW878734 AA018464 AA132031 R67220 R79152 AA296093 H54300 AI005160 BE242548 AW992803 AW878644 AW878666 T27742 R82471 AW517604 AW472738 AI282904 R39791 AA486098 AW467891 AW960520 AA551736 AA056621 AW945197 R66373 AA554236 BE242202 AI904376 AI832590 H19484 R00890 AI627677 AA302287 AI869451 AI734855 AI708073 AI832902 AA585184 AW204299 AA055565 D12417 D11975 T63543 AW664099 R54423 BE612712 T96340 T63985 AA598917 T40735 T64053 AA149284 AW272548 AA363445 AA042893 AW300697 BE261973 T53501 T53500 AW878729 AW878657 AW794391 AA069193 R01553 H44875 AA385406 AA533968 M93060 AL135600 W96331 AA017651 AA018849 AA017692 H85337 BE278690 AA731598 AA018512 AI076813 AI022644 R02585 X52220 AW296894 AA825671 AI699321 AI393601 AW592611 AI146747 AA608921 AA158365 AW590007 AA354519 D20081 R02704 AW798339 M92422 AA094903 AA007676

133681	13893_1	AI352558 Z82248 X78138 NM_003405 AU077248 AA223125 S80794 D78577 AI124697 AW403970 BE614089 BE296713 BE621334 L20422 X80536 D54224 D54950 X57345 N29226 AA127798 AA340253 F08031 AA192540 H67636 AA321827 AW950283 AA084159 BE538808 AW401377 AA256774 C03366 W46595 W47608 AA305009 H69431 H69456 AL120082 H11706 AA303717 AA361357 H22042 H78020 AW999584 AA134368 AA322911 AA322961 H60980 N85248 N31547 H79624 T11718 W85826 AW894663 AW894624 BE167441 BE170015 AA304626 AW602163 AW998929 AA156681 AA151067 BE002724 AA608688 H82692 BE155392 AW383636 BE155394 AA487004 AW383504 AI342365 R82553 W16498 BE155344 AI143938 R69901 AA322873 AW340648 R25364 AA367935 AI559406 AA033522 AA374252 AW835019 AI922133 AI697089 N99662 AW189078 AI199076 AW151598 W59944 AA662875 W94022 AA299055 AI039008 AI829449 AA583503 AI635674 AW131665 AI473820 AW273118 AW900930 AA908944 AI688035 AW170272 AI082545 AW468176 AI608761 AI082748 AI911682 AI248943 AI831016 AA192465 AI218477 AA938406 AA385288 AI809817 AA905196 AI191245 AI470204 AI188296 AI421367 AI125315 AI087141 AA629032 AA740589 AI554181 AA150830 AI248541 AI077943 AA775958 AA864930 AI261476 AI123121 AI310394 AA862331 AA872478 BE537084 AI205606 AA720684 AI872093 AW150042 AL120538 AA219627 AA988608 C21397 AI359337 H25337 AI089749 AA605146 AI359620 AA150478 AI359738 AW383642 AW995424 AI766457 R56892 AI089839 W61343 N69107 W46459 AA565955 N20527 AI279782 W46596 AA776573 H23204 AI866231 AI083995 N21530 AA126874 D82630 W65437 AI086917 AW382095 AI086877 H69844 AW340217 W85827 L08439 AA262704 AA505380 W47413 W94135 AA223241 AW089153 AA084101 BE538000 AA096126 T28031 AA491574 R84813 AA774536 AW383522 AA155615 AW383529 AA491520 AW028427 AA171496 AI469689 AW664539 AI811102 AI811116 BE464590 BE350791 H78021 T15405 H21979 AA219489 H13301 AA505883 AI864305 AI423963 AW084401 F04963 R69858 H67097 AI917740 AI655561 H69864 AA033631 AW383484 AI886261 H25293 AA513281 AW271187 H11617 N79982 AI174338 AI904207 AI904208 BE614558 W94127 W65436 AI272249 AA700018 AI579932 AI085941 AW152629
134403	17037_1	AA334551 BE008229 AA307537 AW961156 AW995894 AW995826 NM_006751 M61199 AA045603 AL036372 AV645606 AI688095 AW351901 AA101337 AA101345 N73342 BE018030 BE569044 AW841975 AA373388 BE090412 H95440 N53845 R67867 AA093441 AA363427 H93708 AW023134 AW994986 AW994989 BE090429 R23614 AI567932 H03726 H01101 H01867 AA548743 AI671806 AW872949 AW872941 AA742447 AI199788 AA045604 AI637465 AI741796 AW242217 AW131463 AI765302 AI683923 AA889762 AI804889 AI986437 C06049 BE502340 AI695651 AI491970 AA496804 AA281008 AA665699 AI473814 BE301445 AA707837 AA551925 AI017348 AI208185 AA775203 AA156296 AA557463 H95441 AA768547 AW769358 AA991197 AA181954 AI091389 AI147289 AW771837 AI638582 AA844411 AI374750 T29320 AW951272 AW085923 H02834 AA843259 AA814696 AW183290 AA158453 N68125 N69039 AA100423 AA101346 AI918720 H01102 R67868 H01868 N66438 R46580 AI858433 AA599560 AA187577 AA157481 AA361520 AL047827 AA158452 R21688 AW964874 AA325161 R40871 AW752395 AW375924 R13355 AA281174 AA428908
135096	33756_2	AA081258 AA160311 W17034 H83596 Z99393 AI831206 AW771108 AW769214 N89775 AW161495 AW161522 AW160880 Z99394 AI814820
103767	34817_1	BE244667 BE241813 BE242271 AA381943 NM_016040 AF151858 AW967497 AW966873 AI824386 AW470133 AW015765 BE018650 AW503659 AI129838 AI632346 AA013099 AW770511 BE219482 AI824135 AI867379 AA019348 AA285143 AW087624 AI990100 AA251084 AI633962 AA287714 AA400773 AI292112 AW469095 AA743312 AW117423 AA694551 AA885657 AA112675 BE327333 AA082161 H03613 AA094735 AW500235 N28878 AA287713 AW300233 AA826249 N46921 BE348728 AW505056 AW966879 AI521202 AA393405 AI264668 AA910851 AA251721 AI470834 H03503 AA089688 R58562 BE004728 AA668793 H27167 R54717
103855	84277_1	W02363 N80298 AA304486 AW954799 AW805136 AW970817 AW373398 AW875459 AA136805 AA683501 N73299 AW341082 AI632954 AA493369 AI478433 AI037911 AW272169 AW043832 AA010683 AW629090 AW183622 N64510 AW079953 AI554533 AA563670 AA010682 AW237610 AW419057 AI470926 AI627833 AA195080 AA195179 AI471443 AW590266 AI168477 AW771214 AI767341 AW340086 AW748455 AI280079 AI244821 AI381283 AW300130 AW183374 AW195397 AA136706 AI824598 AW573004 Z98448 AA905255 AI497883
126872	142696_1	AW450979 AA136653 AA136656 AW419381 AA984358 AA492073 BE168945 AA809054 AW238038 BE011212 BE011359 BE011367 BE011368 BE011362 BE011215 BE011365 BE011363
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112540	1605263_1	R69751 R70467 H69771 H80879 H80878
111904	1719336_1	Z41572 R39330
121094	275729_1	AA402505 AA398900
128510	19829_1	X94703 NM_004249 R52316 T87420 N46403 Z36855 BE076834
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121335	279548_1	AA404418 AI217248
120761	224903_1	AA321890 R18000
122050	273507_2	AI453076 AI376075 AI014836 AA628633 AA961066 AI150282 AI028574 AI217182 AA732910 AA431478 AL041229
130018	18986_1	AA353093 AW957317 AW872498 AI560785 AI289110 AW135512 X97261 T68873
100104	19974_-3	AF008937
121822	244391_1	AI743860 N49543 AW027759 BE349467 AI656284 BE463975 R35022 AA370031 AW955302 AL042109 N53092 AI611424 AL079362 AI969290 AI928016 BE394912 BE504220 BE467505 AI611611 AI611407 AI611452 W56437 AI284566 AI583349 AW183058 AI308085 AI074952 AA437315 AA628161 AW301728 AI150224 AA400137 AA437279 AI223355 AA639462 AI261373 AI432414 AI984994 AI539335 AA401550 AA358757 AI609976 AA442357 AA359393 AA437046 AA370301 AA429328 AW272055 AI580502 AI832944 AI038530 AA425107 AI014986 AI148349 AW237721 AW779756 AW137877 AI125293 AA400404 R28554
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125150	NOT_FOUND_entrez_W38240	W38240
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118475	genbank_N66845	N66845
118581	genbank_N68905	N68905
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108439	genbank_AA078986	AA078986
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124254	genbank_H69899	H69899
101447	entrez_M21305	M21305
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101667	13349_1	NM_005381 M60858 AW373732 AW373724 AW373689 AW373629 AW373609 AW373776 AA187806 AW386946 AW374207 T05235 AA216203 AW385556 AA306940 AA306526 AA315461 AL036757 AW373711 AW403124 AW403640 AW377084 T27360 H62638 F06957 AW377051 AA554779 AA378568 AA096007 AW352407 AW302637 F07929 H17433 AW382712 H05665 F07292 N39875 AA089729 H62556 N42842 R12952 AW373735 AW364155 AA056183 W39185 AW382708 N32488 AF114096 AW375993 AI133569 W52561 AA603040 AA133710 AI928796 AW176370 AA827519 AW338437 AA521142 T29341 AI800461 AW317002 AA703914 AA860830 AI859203 AI445772 AA714334 AI817066 AI832027 AW510442 AI635802 AW088306 AW068672 AW408555 AW467542 AA552657 AA152367 W32081 AA582124 AA074040 AA931657 AI051154 AW410203 AI921644 H17434 AI832330 AW404836 AI925038 AA088423 AA954166 AA580453 AW021292 AI267215 AW080082 AW383778 AI933053 AI919097 W31557 N90245 AA931591 AA563995 F36352 AA056184 AA476294 AA641327 AA533550 AI749630 W58323 AA569119 AA508573 AI809050 AI378996 AA411362 AW407505 AA938104 AA074041 AA632876 AW193748 AA507873 AI270128 AI472365 AA411363 AI523216 AI719965 AI816302 AA182681 AI707990 AA133588 AI758537 W60253 AI460308 AA135423 AI083904 F04188 N89693 AW408776 AI678595 AI270568 AA722059 W58234 F33650 AA090547 AA285108 AA425981 N85079 D20218 AI273980 AA159028 F03226 AW247914 N26918 AW272741 N90109 H05666 N23327 AW247953 R44748 AA962015 F03558 AI752394 AW409913 AW248396 AI816463 AI752393 AA325370 AA263089 AI570130 AI971951 AI160658 AI357360 AW168686 AL121075 AW050536 N21672 W67748 AA514242 AI127386 H14607 AI185752 W79364 AA088520 AA152476 AW351940 AW373683 AI940524 AW374953 T56500 N24329 AI940720 AW374933 AW374947 AW391913 AL138337 AW376241 AW062943 F26666 AW410202 AW062958 F34529 AW381807 AW393315 W17147 AW176359 AA664576 AW380424 AA306040 AI745674 AW300951 AI188579 AI438973 AI305271 AA433818 AA612807 AI831809 AI940409 AA158663 AI572988
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124799	genbank_R45088	R45088
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117683	genbank_N40180	N40180
124991	genbank_T50116	T50116
103432	entrez_X97748	X97748
119174	genbank_R71234	R71234
119239	95573_2	T11483 T11472
133678	11235_1	AW247252 AA346143 NM_000270 AA381085 N91995 X00737 AA381079 AA296473 AA296110 AA315735 AA311617 AA326750 AA376804 AW403290 T95231 M13953 T47963 H82039 AA279899 AA627997 N76320 N99527 H37842 W20095 AA457308 AW469547 AA724143 H83220 AA319496 W86334 W30892 R89169 R99427 N41854 H47286 AA348094 AA045089 R63016 AI922219 AI024906 AI096488 AI885005 AA194872 N90489 AI452544 H72411 AA282427 AA430735 R68963 R22453 H70385 AW129369 AW467320 AW519082 AA345018 AA582183 AI961789 R65918 N30611 AI979189 AI280889 AW273191 R66531 AI285845 AI675927 AI421990 AW190879 H37794 AA699667 H68427 AA954388 AI188757 AI140048 AA430382 AI204151 AW247864 AA559099 AI431420 AA548276 AI149466 AA772669 AA694388 AA724168 AA301651 AA281952 AA779925 AA234760 W86290 AA913603 AW511745 AI500697 AA814922 AA835040

		T47964 H53998 AA975804 R98710 AI077604 N70252 R98084 AW250171 H69268 AI597614 AA970746 AA972548 AI377116 R62962 H16737 R89070 AA731329 R66532 N54354 AI818832 H81944 N71567 T95122 W86463 AA437095 AI431999 AI915724 N63851 AI674743 AA457307 AA211475 N64444 AI799146 H72853 R99335 H60413 AA770367 AA156105 AI269937 H64029 H89728 R65819 AW470496 AI873318 AI735713 H82987 C02447 AI478666 T27651 AI699770 AW025156 H69719 AI984717 N69225 AI459856 AA953577 AI424691 H13843 R22404 AI873796 AI336002 N70898 AI420854 AA541792 AA346142 AI000814 AI828348 AA045090 T51257 N90434 H13890 N73184 AI708083 AA781606 AA329050 AA339985 R68964 H64795 W04186 H16845
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119558	NOT_FOUND_entrez_W38194	W38194
119559	NOT_FOUND_entrez_W38197	W38197
119654	genbank_W57759W57759	
121350	genbank_AA405237	AA405237
121558	genbank_AA412497	AA412497
105985	genbank_AA406610	AA406610
114648	genbank_AA101056	AA101056
121895	genbank_AA427396	AA427396
100327	entrez_D55640	D55640
123315	714071_1	AA496369 AA496646
123473	genbank_AA599143	AA599143

TABLE 4:

Pkey:	Unique Eos probeset identifier number
Accession:	Accession number used for previous patent filings
ExAccn:	Exemplar Accession number, Genbank accession number
UnigeneID:	Unigene number
Unigene Title:	*Unigene gene title*

Pkey	Accession	ExAccn	UniGene	UnigeneTitle
100405	D86425	AW291587	Hs.82733	nidogen 2
100420	D86983	D86983	Hs.118893	Melanoma associated gene
100481	HG1098-HT1098	X70377	Hs.121489	cystatin D
100484	HG1103-HT1103	NM_005402	Hs.288757	v-ral simian leukemia viral oncogene hom
100718	HG3342-HT3519	BE295928	Hs.75424	inhibitor of DNA binding 1, dominant neg
100991	J03764	J03836	Hs.82085	serine (or cysteine) proteinase inhibito
101097	L06797	BE245301	Hs.89414	chemokine (C-X-C motif), receptor 4 (fus
101168	L15388	NM_005308	Hs.211569	G protein-coupled receptor kinase 5
101194	L20971	L20971	Hs.188	phosphodiesterase 4B, cAMP-specific (dun
101261	L35545	D30857	Hs.82353	protein C receptor, endothelial (EPCR)
101345	L76380	NM_005795	Hs.152175	calcitonin receptor-like
101447	M21305	M21305		gb:Human alpha satellite and satellite 3
101485	M24736	AA296520	Hs.89546	selectin E (endothelial adhesion molecul
101543	M31166	M31166	Hs.2050	pentaxin-related gene, rapidly induced b
101550	M31551	Y00630	Hs.75716	serine (or cysteine) proteinase inhibito
101560	M32334	AW958272	Hs.347326	intercellular adhesion molecule 2
101674	M61916	NM_002291	Hs.82124	laminin, beta 1
101714	M68874	M68874	Hs.211587	phospholipase A2, group IVA (cytosolic,
101741	M74719	NM_003199	Hs.326198	transcription factor 4
101838	M92934	BE243845	Hs.75511	connective tissue growth factor
101857	M94856	BE550723	Hs.153179	fatty acid binding protein 5 (psoriasis-
102012	U03057	BE259035	Hs.118400	singed (Drosophila)-like (sea urchin fas
102024	U03877	AA301867	Hs.76224	EGF-containing fibulin-like extracellula
102164	U18300	NM_000107	Hs.77602	damage-specific DNA binding protein 2 (4
102241	U27109	NM_007351	Hs.268107	multimerin
102283	U31384	AW161552	Hs.83381	guanine nucleotide binding protein 11
102303	U33053	U33053	Hs.2499	protein kinase C-like 1
102564	U59423	U59423	Hs.79067	MAD (mothers against decapentaplegic, Dr
102663	U70322	NM_002270	Hs.168075	karyopherin (importin) beta 2
102759	U81607	NM_005100	Hs.788	A kinase (PRKA) anchor protein (gravin)
102778	U83463	AF000652	Hs.8180	syndecan binding protein (syntenin)
102804	U89942	NM_002318	Hs.83354	lysyl oxidase-like 2
102887	X04729	J03836	Hs.82085	serine (or cysteine) proteinase inhibito
102898	X06256	NM_002205	Hs.149609	integrin, alpha 5 (fibronectin receptor,
102915	X07820	X07820	Hs.2258	matrix metalloproteinase 10 (stromelysin
103036	X54925	M13509	Hs.83169	matrix metalloproteinase 1 (interstitial
103037	X54936	BE018302	Hs.2894	placental growth factor, vascular endoth
103095	X60957	NM_005424	Hs.78824	tyrosine kinase with immunoglobulin and
103158	X67235	BE242587	Hs.118651	hematopoietically expressed homeobox
103166	X67951	AA159248	Hs.180909	peroxiredoxin 1
103185	X69910	NM_006825	Hs.74368	transmembrane protein (63kD), endoplasmi
103280	X79981	U84722	Hs.76206	cadherin 5, type 2, VE-cadherin (vascula
103554	Z18951	AI878826	Hs.74034	caveolin 1, caveolae protein, 22kD
103850	AA187101	AA187101	Hs.213194	hypothetical protein MGC10895
104465	N24990	Z44203	Hs.26418	ESTs
104592	R81003	AW630488	Hs.25338	protease, serine, 23
104764	AA025351	AI039243	Hs.278585	ESTs
104786	AA027168	AA027167	Hs.10031	KIAA0955 protein
104850	AA040465	AL133035	Hs.8728	hypothetical protein DKFZp434G171
104865	AA045136	T79340	Hs.22575	B-cell CLL/lymphoma 6, member B (zinc fi
104894	AA054087	AF065214	Hs.18858	phospholipase A2, group IVC (cytosolic,
104952	AA071089	AW076098	Hs.345588	desmoplakin (DPI, DPII)
104974	AA085918	Y12059	Hs.278675	bromodomain-containing 4
105178	AA187490	AA313825	Hs.21941	AD036 protein
105263	AA227926	AW388633	Hs.6682	solute carrier family 7, (cationic amino
105330	AA234743	AW338625	Hs.22120	ESTs
105376	AA236559	AW994032	Hs.8768	hypothetical protein FLJ10849
105729	AA292694	H46612	Hs.293815	Homo sapiens HSPC285 mRNA, partial cds
105826	AA398243	AA478756	Hs.194477	E3 ubiquitin ligase SMURF2
105977	AA406363	AK001972	Hs.30822	hypothetical protein FLJ11110
106008	AA411465	AB033888	Hs.8619	SRY (sex determining region Y)-box 18
106031	AA412284	X64116	Hs.171844	Homo sapiens cDNA: FLJ22296 fis, clone H
106124	AA423987	H93366	Hs.7567	Homo sapiens cDNA: FLJ21962 fis, clone H

106155	AA425309	AA425414	Hs.33287	nuclear factor I/B
106302	AA435896	AA398859	Hs.18397	hypothetical protein FLJ23221
106423	AA448238	AB020722	Hs.16714	Rho guanine exchange factor (GEF) 15
106793	AA478778	H94997	Hs.16450	ESTs
107174	AA621714	BE122762	Hs.25338	ESTs
107216	D51069	D51069	Hs.211579	melanoma cell adhesion molecule
107295	T34527	AA186629	Hs.80120	UDP-N-acetyl-alpha-D-galactosamine:polyp
107385	U97519	NM_005397	Hs.16426	podocalyxin-like
108756	AA127221	AA127221	Hs.117037	ESTs
108846	AA132983	AL117452	Hs.44155	DKFZP586G1517 protein
108888	AA135606	AA135606	Hs.189384	gb:zl10a05.s1 Soares_pregnant_uterus_NbH
109001	AA156125	AI056548	Hs.72116	hypothetical protein FLJ20992 similar to
109166	AA179845	AA219691	Hs.73625	RAB6 interacting, kinesin-like (rabkines
109456	AA232645	AW956580	Hs.42699	ESTs
109768	F10399	F06838	Hs.14763	ESTs
110107	H16772	AW151660	Hs.31444	ESTs
110906	N39584	AA035211	Hs.17404	ESTs
110984	N52006	AW613287	Hs.80120	UDP-N-acetyl-alpha-D-galactosamine:polyp
111006	N53375	BE387014	Hs.166146	Homer, neuronal immediate early gene, 3
111018	N54067	AI287912	Hs.3628	mitogen-activated protein kinase kinase
111133	N64436	AW580939	Hs.97199	complement component C1q receptor
111760	R26892	BE551929	Hs.268754	Homo sapiens cDNA FLJ11949 fis, clone HE
113073	T33637	N39342	Hs.103042	microtubule-associated protein 1B
113195	T57112	H83265	Hs.8881	ESTs, Weakly similar to S41044 chromosom
113923	W80763	AW953484	Hs.3849	hypothetical protein FLJ22041 similar to
114521	AA046808	AW139036	Hs.108957	40S ribosomal protein S27 isoform
115061	AA253217	AI751438	Hs.41271	Homo sapiens mRNA full length insert cDN
115096	AA255991	AI683069	Hs.175319	ESTs
115145	AA258138	AA740907	Hs.88297	ESTs
115819	AA426573	AA486620	Hs.41135	endomucin-2
115947	AA443793	R47479	Hs.94761	KIAA1691 protein
116314	AA490588	AI799104	Hs.178705	Homo sapiens cDNA FLJ11333 fis, clone PL
116339	AA496257	AK000290	Hs.44033	dipeptidyl peptidase 8
116430	AA609717	AK001531	Hs.66048	hypothetical protein FLJ10669
116589	D59570	AI557212	Hs.17132	ESTs, Moderately similar to I54374 gene
116733	F13787	AL157424	Hs.61289	synaptojanin 2
117023	H88157	AW070211	Hs.102415	Homo sapiens mRNA; cDNA DKFZp586N0121 (f
117186	H98988	H98988	Hs.42612	ESTs, Weakly similar to ALU1_HUMAN ALU S
117563	N34287	AF055634	Hs.44553	unc5 (C.elegans homolog) c
117997	N52090	N52090	Hs.47420	EST
118475	N66845	N66845		gb:za46c11.s1 Soares fetal liver spleen
118581	N68905	N68905		gb:za69b09.s1 Soares_fetal_lung_NbHL19W
119073	R32894	BE245360	Hs.279477	ESTs
119155	R61715	R61715	Hs.310598	ESTs, Moderately similar to ALU1_HUMAN A
119174	R71234	R71234		gb:yi54c08.s1 Soares placenta Nb2HP Homo
119221	R98105	C14322	Hs.250700	tryptase beta 1
119416	T97186	T97186		gb:ye50h09.s1 Soares fetal liver spleen
119866	W80814	AA496205	Hs.193700	Homo sapiens mRNA; cDNA DKFZp586I0324 (f
121335	AA404418	AA404418		gb:zw37e02.s1 Soares_total_fetus_Nb2HF8_
121381	AA405747	AW088642	Hs.97984	hypothetical protein FLJ22252 similar to
123160	AA488687	AA488687	Hs.284235	ESTs, Weakly similar to I38022 hypotheti
123473	AA599143	AA599143		gb:ae52d04.s1 Stratagene lung carcinoma
123523	AA608588	AA608588		gb:ae54e06.s1 Stratagene lung carcinoma
123533	AA608751	AA608751		gb:ae56h07.s1 Stratagene lung carcinoma
123964	C13961	C13961		gb:C13961 Clontech human aorta polyA+ mR
124006	D60302	AI147155	Hs.270016	ESTs
124315	H94892	NM_005402	Hs.288757	v-ral simian leukemia viral oncogene hom
124659	N93521	AI680737	Hs.289068	Homo sapiens cDNA FLJ11918 fis, clone HE
124669	N95477	AI571594	Hs.102943	hypothetical protein MGC12916
124847	R60044	W07701	Hs.304177	Homo sapiens clone FLB8503 PRO2286 mRNA,
124875	R70506	AI887664	Hs.285814	sprouty (Drosophila) homolog 4
125091	T91518	T91518		gb:ye20f05.s1 Stratagene lung (937210) H
125103	T95333	AA570056	Hs.122730	ESTs, Moderately similar to KIAA1215 pro
125355	R45630	R60547	Hs.170098	KIAA0372 gene product
125565	R20839	R20840		gb:yg05c08.r1 Soares infant brain 1NIB H
125590	R23858	R23858	Hs.143375	Homo sapiens, clone IMAGE:3840937, mRNA,
423765	R23858	R23858	Hs.143375	Homo sapiens, clone IMAGE:3840937, mRNA,
126511	AI024874	T92143	Hs.57958	EGF-TM7-latrophilin-related protein
100286	W26247	BE247550	Hs.86859	growth factor receptor-bound protein 7
126563	W26247	AA516391	Hs.181368	U5 snRNP-specific protein (220 kD), orth
126649	AA856990	AA001860	Hs.279531	ESTs
449602	AA856990	AA001860	Hs.279531	ESTs
126872	AA136653	AW450979		gb:UI-H-BI3-ala-a-12-0-UI.s1 NCI_CGAP_Su
456000	AA136653	BE180876	Hs.11614	HSPC065 protein
414221	AA136653	AW450979		gb:UI-H-BI3-ala-a-12-0-UI.s1 NCI_CGAP_Su
127402	AA358869	AA358869	Hs.227949	SEC13 (S. cerevisiae)-like 1

127651	AI123976	AA382523	Hs.105689	MSTP031 protein
424806	AI123976	AA382523	Hs.105689	MSTP031 protein
128062	AA379500	AA379621	Hs.105547	neural proliferation, differentiation an
128992	R49693	H04150	Hs.107708	ESTs
129046	AA195678	AB029290	Hs.108258	actin binding protein; macrophin (microf
129188	M30257	NM_001078	Hs.109225	vascular cell adhesion molecule 1
129314	AA028131	BE622768	Hs.290356	mesoderm development candidate 1
129371	M10321	X06828	Hs.110802	von Willebrand factor
129468	J03040	AW410538	Hs.111779	secreted protein, acidic, cysteine-rich
129765	M86933	M86933	Hs.1238	amelogenin (Y chromosome)
129805	AA012933	AA012848	Hs.12570	tubulin-specific chaperone d
129884	AA286710	AF055581	Hs.13131	lysosomal
130495	AA243278	AW250380	Hs.109059	mitochondrial ribosomal protein L12
130639	D59711	AI557212	Hs.17132	ESTs, Moderately similar to I54374 gene
130657	T94452	AW337575	Hs.201591	ESTs
130828	AA053400	AW631469	Hs.203213	ESTs
130972	AA370302	D81866	Hs.21739	Homo sapiens mRNA; cDNA DKFZp586I1518 (f
131080	J05008	NM_001955	Hs.2271	endothelin 1
131137	U85193	W27392	Hs.33287	nuclear factor I/B
131182	AA256153	AI824144	Hs.23912	ESTs
131486	X83107	F06972	Hs.27372	BMX non-receptor tyrosine kinase
131573	AA046593	AA040311	Hs.28959	ESTs
131647	AA410480	AA359615	Hs.30089	ESTs
131756	D45304	AA443966	Hs.31595	ESTs
131859	M90657	AW960564		transmembrane 4 superfamily member 1
131881	AA010163	AW361018	Hs.3383	upstream regulatory element binding prot
132050	AA136353	AI267615	Hs.38022	ESTs
132083	Y07867	BE386490	Hs.279663	Pirin
132164	U84573	AI752235	Hs.41270	procollagen-lysine, 2-oxoglutarate 5-dio
132358	X60486	NM_003542	Hs.46423	H4 histone family, member G
132413	AA132969	AW361383	Hs.260116	metalloprotease 1 (pitrilysin family)
132456	AA114250	AB011084	Hs.48924	KIAA0512 gene product; ALEX2
132490	F13782	NM_001290	Hs.4980	LIM domain binding 2
132676	AA283035	N92589	Hs.261038	ESTs, Weakly similar to I38022 hypotheti
132687	AB002301	AB002301	Hs.54985	KIAA0303 protein
132718	AA056731	NM_004600	Hs.554	Sjogren syndrome antigen A2 (60kD, ribon
132736	U68019	AW081883	Hs.211578	Homo sapiens cDNA: FLJ23037 fis, clone L
132760	H99198	AA125985	Hs.56145	thymosin, beta, identified in neuroblast
132933	AA598702	BE263252	Hs.6101	hypothetical protein MGC3178
132968	N77151	AF234532	Hs.61638	myosin X
132994	AA505133	AA112748	Hs.279905	clone HQ0310 PRO0310p1
133061	AB000584	AI186431	Hs.296638	prostate differentiation factor
133147	D12763	AA026533	Hs.66	interleukin 1 receptor-like 1
133161	AA253193	AW021103	Hs.6631	hypothetical protein FLJ20373
133200	AA432248	AB037715	Hs.183639	hypothetical protein FLJ10210
133260	AA083572	AA403045	Hs.6906	Homo sapiens cDNA: FLJ23197 fis, clone R
133363	AA479713	AI866286	Hs.71962	ESTs, Weakly similar to B36298 proline-r
133491	L40395	BE619053	Hs.170001	eukaryotic translation initiation factor
133517	X52947	NM_000165	Hs.74471	gap junction protein, alpha 1, 43kD (con
133550	W80846	AI129903	Hs.74669	vesicle-associated membrane protein 5 (m
133607	M34539	BE273749		FK506-binding protein 1A (12kD)
133614	D67029	NM_003003	Hs.75232	SEC14 (S. cerevisiae)-like 1
133627	U09587	NM_002047	Hs.75280	glycyl-tRNA synthetase
133691	M85289	M85289	Hs.211573	heparan sulfate proteoglycan 2 (perlecan
133696	D10522	AI878921	Hs.75607	myristoylated alanine-rich protein kinas
133913	W84712	AU076964	Hs.7753	calumenin
133975	D29992	C18356	Hs.295944	tissue factor pathway inhibitor 2
133985	L34657	L34657	Hs.78146	platelet/endothelial cell adhesion molec
134039	S78569	NM_002290	Hs.78672	laminin, alpha 4
134088	D43636	AI379954	Hs.79025	KIAA0096 protein
134161	U97188	AA634543	Hs.79440	IGF-II mRNA-binding protein 3
134299	AA487558	AW580939	Hs.97199	complement component C1q receptor
134416	M28882	X68264	Hs.211579	melanoma cell adhesion molecule
116470	X70683	AI272141	Hs.83484	SRY (sex determining region Y)-box 4
134656	X14787	AI750878	Hs.87409	thrombospondin 1
134989	AA236324	AW968058	Hs.92381	nudix (nucleoside diphosphate linked moi
135051	C15324	AI272141	Hs.83484	SRY (sex determining region Y)-box 4
135073	AA452000	W55956	Hs.94030	Homo sapiens mRNA; cDNA DKFZp586E1624 (f
135349	D83174	AA114212	Hs.9930	serine (or cysteine) proteinase inhibito
100114	D00596	X02308	Hs.82962	thymidylate synthetase
100130	D11428	NM_000304	Hs.103724	peripheral myelin protein 22
100143	D13640	AU076465	Hs.278441	KIAA0015 gene product
100168	D14874	H73444	Hs.394	adrenomedullin
100208	D26129	NM_002933	Hs.78224	ribonuclease, RNase A family, 1 (pancrea
100224	D28476	AL121516	Hs.138617	thyroid hormone receptor interactor 12
100405	D86425	AW291587	Hs.82733	nidogen 2

100420	D86983	D86983	Hs.118893	Melanoma associated gene
100455	D87953	AW888941	Hs.75789	N-myc downstream regulated
100529	HG1862-HT1897	BE313693	Hs.334330	calmodulin 2 (phosphorylase kinase, delt
100618	HG2614-HT2710	AI752163	Hs.114599	collagen, type VIII, alpha 1
100619	HG2639-HT2735	N24433	Hs.241567	RNA binding motif, single stranded inter
100658	HG2855-HT2995	U56725	Hs.180414	heat shock 70kD protein 2
100676	HG3044-HT3742	X02761	Hs.287820	fibronectin 1
100718	HG3342-HT3519	BE295928	Hs.75424	inhibitor of DNA binding 1, dominant neg
100752	HG3543-HT3739	T81309		insulin-like growth factor 2 (somatomedi
100828	HG4069-HT4339	AL048753	Hs.303649	small inducible cytokine A2 (monocyte ch
100850	HG417-HT417	AA836472	Hs.297939	cathepsin B
100991	J03764	J03836	Hs.82085	serine (or cysteine) proteinase inhibito
101097	L06797	BE245301	Hs.89414	chemokine (C-X-C motif), receptor 4 (fus
101110	L08246	AI439011	Hs.86386	myeloid cell leukemia sequence 1 (BCL2-r
101142	L12711	L12711	Hs.89643	transketolase (Wernicke-Korsakoff syndro
101156	L13977	AA340987	Hs.75693	prolylcarboxypeptidase (angiotensinase C
101168	L15388	NM_005308	Hs.211569	G protein-coupled receptor kinase 5
101184	L19871	NM_001674	Hs.460	activating transcription factor 3
101192	L20859	BE247295	Hs.78452	solute carrier family 20 (phosphate tran
101317	L42176	L42176	Hs.8302	four and a half LIM domains 2
101336	L49169	NM_006732	Hs.75678	FBJ murine osteosarcoma viral oncogene h
101345	L76380	NM_005795	Hs.152175	calcitonin receptor-like
101400	M15990	M15990	Hs.194148	v-yes-1 Yamaguchi sarcoma viral oncogene
101475	M23254	BE410405	Hs.76288	calpain 2, (m/II) large subunit
101485	M24736	AA296520	Hs.89546	selectin E (endothelial adhesion molecul
101496	M26576	X12784	Hs.119129	collagen, type IV, alpha 1
101505	M27396	AA307680	Hs.75692	asparagine synthetase
101543	M31166	M31166	Hs.2050	pentaxin-related gene, rapidly induced b
101557	M31994	BE293116	Hs.76392	aldehyde dehydrogenase 1 family, member
101560	M32334	AW958272	Hs.347326	intercellular adhesion molecule 2
101587	M35878	AI752416	Hs.77326	insulin-like growth factor binding prote
101592	M36429	AF064853	Hs.91299	guanine nucleotide binding protein (G pr
101633	M57730	NM_004428	Hs.1624	ephrin-A1
101634	M57731	AV650262	Hs.75765	GRO2 oncogene
101667	M60858	NM_005381		nucleolin
101682	M62994	AF043045	Hs.81008	filamin B, beta (actin-binding protein-2
101714	M68874	M68874	Hs.211587	phospholipase A2, group IVA (cytosolic,
101720	M69043	M69043	Hs.81328	nuclear factor of kappa light polypeptid
101741	M74719	NM_003199	Hs.326198	transcription factor 4
101744	M75126	AI879352	Hs.118625	hexokinase 1
101793	M84349	W01076	Hs.278573	CD59 antigen p18-20 (antigen identified
101837	M92843	M92843	Hs.343586	zinc finger protein homologous to Zfp-36
101838	M92934	BE243845	Hs.75511	connective tissue growth factor
101840	M93056	AA236291	Hs.183583	serine (or cysteine) proteinase inhibito
101857	M94856	BE550723	Hs.153179	fatty acid binding protein 5 (psoriasis-
101864	M95787	BE392588	Hs.75777	transgelin
101931	S76965	NM_006823	Hs.75209	protein kinase (cAMP-dependent, catalyti
101966	S81914	X96438	Hs.76095	immediate early response 3
102012	U03057	BE259035	Hs.118400	singed (Drosophila)-like (sea urchin fas
102013	U03100	BE616287	Hs.178452	catenin (cadherin-associated protein), a
102024	U03877	AA301867	Hs.76224	EGF-containing fibulin-like extracellula
102059	U08021	AI752666	Hs.76669	nicotinamide N-methyltransferase
102121	U14391	NM_004998	Hs.82251	myosin IE
102283	U31384	AW161552	Hs.83381	guanine nucleotide binding protein 11
102300	U32944	AI929721	Hs.5120	dynein, cytoplasmic, light polypeptide
102378	U40369	AU076887	Hs.28491	spermidine/spermine N1-acetyltransferase
102395	U41767	AU077005	Hs.92208	a disintegrin and metalloproteinase doma
102460	U48959	U48959	Hs.211582	myosin, light polypeptide kinase
102491	U51010	U51010		gb:Human nicotinamide N-methyltransferas
102499	U51478	BE243877	Hs.76941	ATPase, Na+/K+ transporting, beta 3 poly
102523	U53445	U53445	Hs.15432	downregulated in ovarian cancer 1
102560	U59289	R97457	Hs.63984	cadherin 13, H-cadherin (heart)
102564	U59423	U59423	Hs.79067	MAD (mothers against decapentaplegic, Dr
102589	U62015	AU076728	Hs.8867	cysteine-rich, angiogenic inducer, 61
102600	U63825	AI984144	Hs.66713	hepatitis delta antigen-interacting prot
102645	U67963	AL119566	Hs.6721	lysosomal
102687	U73379	NM_007019	Hs.93002	ubiquitin carrier protein E2-C
102693	U73824	AA532780	Hs.183684	eukaryotic translation initiation factor
102709	U77604	AA122237	Hs.81874	microsomal glutathione S-transferase 2
102759	U81607	NM_005100	Hs.788	A kinase (PRKA) anchor protein (gravin)
102804	U89942	NM_002318	Hs.83354	lysyl oxidase-like 2
102882	X04412	AI767736	Hs.290070	gelsolin (amyloidosis, Finnish type)
102907	X06985	BE409861	Hs.202833	heme oxygenase (decycling) 1
102915	X07820	X07820	Hs.2258	matrix metalloproteinase 10 (stromelysin
102927	X12876	BE512730	Hs.65114	keratin 18
102960	X15729	AI904738	Hs.76053	DEAD/H (Asp-Glu-Ala-Asp/His) box polypep

103011	X52541	AJ243425	Hs.326035	early growth response 1
103020	X53416	X53416	Hs.195464	filamin A, alpha (actin-binding protein-
103029	X54489	AW800726	Hs.789	GRO1 oncogene (melanoma growth stimulati
103036	X54925	M13509	Hs.83169	matrix metalloproteinase 1 (interstitial
103056	X57206	Y18024	Hs.78877	inositol 1,4,5-trisphosphate 3-kinase B
103080	X59798	AU077231	Hs.82932	cyclin D1 (PRAD1: parathyroid adenomatos
103095	X60957	NM_005424	Hs.78824	tyrosine kinase with immunoglobulin and
103138	X65965	X65965		*gb:H.sapiens SOD-2 gene for manganese su*
103176	X69111	AL021154	Hs.76884	inhibitor of DNA binding 3, dominant neg
103195	X70940	AA351647	Hs.2642	eukaryotic translation elongation factor
103347	X87838	AU077309	Hs.171271	catenin (cadherin-associated protein), b
103371	X91247	X91247	Hs.13046	thioredoxin reductase 1
103432	X97748	X97748		gb:H.sapiens PTX3 gene promotor region.
103471	Y00815	Y00815	Hs.75216	protein tyrosine phosphatase, receptor t
103967	AA303711	AL120051	Hs.144700	ephrin-B1
104447	L44538	AW204145	Hs.156044	ESTs
104764	AA025351	AI039243	Hs.278585	ESTs
104783	AA027050	AA533513	Hs.93659	protein disulfide isomerase related prot
104798	AA029462	AW952619	Hs.17235	Homo sapiens clone TCCCIA00176 mRNA sequ
104865	AA045136	T79340	Hs.22575	B-cell CLL/lymphoma 6, member B (zinc fi
104877	AA047437	AI138635	Hs.22968	Homo sapiens clone IMAGE:451939, mRNA se
104894	AA054087	AF065214	Hs.18858	phospholipase A2, group IVC (cytosolic,
104952	AA071089	AW076098	Hs.345588	desmoplakin (DPI, DPII)
105113	AA156450	AB037816	Hs.8982	Homo sapiens, clone IMAGE:3506202, mRNA,
105178	AA187490	AA313825	Hs.21941	AD036 protein
105196	AA195031	W84893	Hs.9305	angiotensin receptor-like 1
105215	AA205724	AA205759	Hs.10119	hypothetical protein FLJ14957
105263	AA227926	AW388633	Hs.6682	solute carrier family 7, (cationic amino
105271	AA227986	AA807881	Hs.25329	ESTs
105330	AA234743	AW338625	Hs.22120	ESTs
105461	AA253216	BE539071	Hs.69388	hypothetical protein FLJ20505
105492	AA256210	AI805717	Hs.289112	CGI-43 protein
105493	AA256268	AL047586	Hs.10283	RNA binding motif protein 8B
105594	AA279397	AB024334	Hs.25001	tyrosine 3-monooxygenase/tryptophan 5-mo
105727	AA292379	AL135159	Hs.20340	KIAA1002 protein
105732	AA292717	AW504170	Hs.274344	hypothetical protein MGC12942
105767	AA346551	AW370946	Hs.23457	ESTs
105882	AA400292	W46802	Hs.81988	disabled (Drosophila) homolog 2 (mitogen
105936	AA404338	AI678765	Hs.21812	ESTs
106031	AA412284	X64116	Hs.171844	Homo sapiens cDNA: FLJ22296 fis, clone H
106124	AA423987	H93366	Hs.7567	Homo sapiens cDNA: FLJ21962 fis, clone H
106222	AA428594	AA356392	Hs.21321	Homo sapiens clone FLB9213 PRO2474 mRNA,
106241	AA430108	BE019681	Hs.6019	Homo sapiens cDNA: FLJ21288 fis, clone C
106263	AA431462	W21493	Hs.28329	hypothetical protein FLJ14005
106264	AA431470	AL046859	Hs.3407	protein kinase (cAMP-dependent, catalyti
106366	AA443756	AA186715	Hs.336429	RIKEN cDNA 9130422N19 gene
106454	AA449479	NM_014038	Hs.5216	HSPC028 protein
106634	AA459916	W25491	Hs.288909	hypothetical protein FLJ22471
106724	AA465226	N48670	Hs.28631	Homo sapiens cDNA: FLJ22141 fis, clone H
106793	AA478778	H94997	Hs.16450	ESTs
106799	AA479037	BE313412	Hs.7961	Homo sapiens clone 25012 mRNA sequence
106842	AA482597	AF124251	Hs.26054	novel SH2-containing protein 3
106868	AA487561	BE185536	Hs.301183	molecule possessing ankyrin repeats indu
106890	AA489245	AA489245	Hs.88500	mitogen-activated protein kinase 8 inter
106961	AA504110	AW243614	Hs.18063	Homo sapiens cDNA FLJ10768 fis, clone NT
106974	AA520989	AI817130	Hs.9195	Homo sapiens cDNA FLJ13698 fis, clone PL
107030	AA599434	AL117424	Hs.25035	chloride intracellular channel 4
107061	AA608649	BE147611	Hs.6354	stromal cell derived factor receptor 1
107086	AA609519	NM_012331	Hs.26458	methionine sulfoxide reductase A
107216	D51069	D51069	Hs.211579	melanoma cell adhesion molecule
107385	U97519	NM_005397	Hs.16426	podocalyxin-like
107444	W28391	W28391	Hs.343258	proliferation-associated 2G4, 38kD
107985	AA035638	T40064	Hs.71968	Homo sapiens mRNA; cDNA DKFZp564F053 (fr
108507	AA083514	AI554545	Hs.68301	ESTs
108695	AA121315	AB029000	Hs.70823	KIAA1077 protein
108931	AA147186	AA147186		gb:zo38d01.s1 Stratagene endothelial cel
109001	AA156125	AI056548	Hs.72116	hypothetical protein FLJ20992 similar to
109195	AA188932	AF047033	Hs.132904	solute carrier family 4, sodium bicarbon
109390	AA219653	AW007485	Hs.87125	EH-domain containing 3
109456	AA232645	AW956580	Hs.42699	ESTs
109737	F10078	AA055415	Hs.13233	ESTs, Moderately similar to A47582 B-cel
110411	H48032	AW001579	Hs.9645	Homo sapiens mRNA for KIAA1741 protein,
110660	H82117	AA782114	Hs.28043	ESTs
110906	N39584	AA035211	Hs.17404	ESTs
111018	N54067	AI287912	Hs.3628	mitogen-activated protein kinase kinase
111091	N59858	AA300067	Hs.33032	hypothetical protein DKFZp434N185

111356	N90933	BE301871	Hs.4867	mannosyl (alpha-1,3-)-glycoprotein beta-
111378	N93764	AW160993	Hs.326292	hypothetical gene DKFZp434A1114
111741	R26124	AB020653	Hs.24024	KIAA0846 protein
111769	R27957	AW629414	Hs.24230	ESTs
112318	R55470	AW083384	Hs.11067	ESTs, Highly similar to T46395 hypotheti
112951	T16550	AA307634	Hs.6650	vacuolar protein sorting 45B (yeast homo
113057	T26674	AW194301	Hs.339283	Human DNA sequence from clone RP1-187J11
113195	T57112	H83265	Hs.8881	ESTs, Weakly similar to S41044 chromosom
113490	T88700	BE178110	Hs.173374	Homo sapiens cDNA FLJ10500 fis, clone NT
113542	T90527	H43374	Hs.7890	Homo sapiens mRNA for KIAA1671 protein,
113803	W42789	AW880709	Hs.283683	chromosome 8 open reading frame 4
113847	W60002	NM_005032	Hs.4114	plastin 3 (T isoform)
113910	W78175	AA113262	Hs.17901	Homo sapiens, clone IMAGE:3937015, mRNA,
113947	W84768	W84768		gb:zh53d03.s1 Soares_fetal_liver_spleen_
114047	W94427	AL035858	Hs.3807	FXYD domain-containing ion transport reg
115061	AA253217	AI751438	Hs.41271	Homo sapiens mRNA full length insert cDN
115819	AA426573	AA486620	Hs.41135	endomucin-2
115870	AA432374	NM_005985	Hs.48029	snail 1 (drosophila homolog), zinc finge
115964	AA446622	AA987568	Hs.74313	KIAA1265 protein
116228	AA478771	AI767947	Hs.50841	ESTs
116264	AA482594	D51174	Hs.272239	lysosomal
116314	AA490588	AI799104	Hs.178705	Homo sapiens cDNA FLJ11333 fis, clone PL
116589	D59570	AI557212	Hs.17132	ESTs, Moderately similar to I54374 gene
117023	H88157	AW070211	Hs.102415	Homo sapiens mRNA; cDNA DKFZp586N0121 (f
117112	H94648	AW969999	Hs.293658	ESTs
117156	H97538	W73853		ESTs
117176	H98670	H45100	Hs.49753	uveal autoantigen with coiled coil domai
117280	N22107	M18217	Hs.172129	Homo sapiens cDNA: FLJ21409 fis, clone C
119559	W38197	W38197		Empirically selected from AFFX single pr
119866	W80814	AA496205	Hs.193700	Homo sapiens mRNA; cDNA DKFZp586I0324 (f
120655	AA287347	AA305599	Hs.238205	hypothetical protein PRO2013
121314	AA402799	W07343	Hs.182538	phospholipid scramblase 4
121335	AA404418	AA404418		gb:zw37e02.s1 Soares_total_fetus_Nb2HF8_
121822	AA425107	AI743860		metallothionein 1E (functional)
121835	AA425435	AB033030	Hs.300670	KIAA1204 protein
122331	AA442872	AL133437	Hs.110771	Homo sapiens cDNA: FLJ21904 fis, clone H
122577	AA452860	AA829725	Hs.334437	hypothetical protein MGC4248
123160	AA488687	AA488687	Hs.284235	ESTs, Weakly similar to I38022 hypotheti
123486	AA599674	BE019072	Hs.334802	Homo sapiens cDNA FLJ14680 fis, clone NT
124059	F13673	BE387335	Hs.283713	ESTs, Weakly similar to S64054 hypotheti
124339	H99093	H99093	Hs.343411	DEAD/H (Asp-Glu-Ala-Asp/His) box polypep
124358	N22495	AW070211	Hs.102415	Homo sapiens mRNA; cDNA DKFZp586N0121 (f
124364	N23031	AF265555	Hs.250646	baculoviral IAP repeat-containing 6
124726	R15740	NM_003654	Hs.104576	carbohydrate (keratan sulfate Gal-6) sul
124763	R39610	BE410405	Hs.76288	*calpain 2, (m/II) large subunit*
125167	W45560	AL137540	Hs.102541	netrin 4
125304	Z39833	AL359573	Hs.124940	GTP-binding protein
125307	Z40583	AW580945	Hs.330466	ESTs
125329	AA825437	AA825437	Hs.58875	ESTs
107985	R66613	T40064	Hs.71968	Homo sapiens mRNA; cDNA DKFZp564F053 (fr
125598	R66613	T40064	Hs.71968	Homo sapiens mRNA; cDNA DKFZp564F053 (fr
125609	AA868063	AA868063	Hs.104576	carbohydrate (keratan sulfate Gal-6) sul
116024	AA128075	AA088767	Hs.83883	transmembrane, prostate androgen induced
418000	AA128075	AA932794	Hs.83147	guanine nucleotide binding protein-like
126399	AA128075	AA088767	Hs.83883	transmembrane, prostate androgen induced
127435	N66570	X69086	Hs.286161	Homo sapiens cDNA FLJ13613 fis, clone PL
127566	AI051390	AI051390	Hs.116731	ESTs
127619	AA627122	AA627122	Hs.163787	ESTs
434190	AA627122	AA627122	Hs.163787	ESTs
128453	X02761	X02761	Hs.287820	fibronectin 1
128495	AF010193	NM_005904	Hs.100602	MAD (mothers against decapentaplegic, Dr
128515	AA149044	BE395085	Hs.10086	type I transmembrane protein Fn14
128580	U82108	U82108	Hs.101813	solute carrier family 9 (sodium/hydrogen
128623	D78676	BE076608	Hs.105509	CTL2 gene
128642	L35240	Z28913	Hs.102948	enigma (LIM domain protein)
128669	AA598737	W28493	Hs.180414	heat shock 70kD protein 8
128903	R69417	AW150717	Hs.345728	STAT induced STAT inhibitor 3
128914	AA232837	AW867491	Hs.107125	plasmalemma vesicle associated protein
129087	N72695	AI348027	Hs.108557	hypothetical protein PP1057
129188	M30257	NM_001078	Hs.109225	vascular cell adhesion molecule 1
129226	M96843	BE222494	Hs.180919	inhibitor of DNA binding 2, dominant neg
129265	X68277	AA530892	Hs.171695	dual specificity phosphatase 1
129345	AA292440	R22497	Hs.110571	growth arrest and DNA-damage-inducible,
129468	J03040	AW410538	Hs.111779	secreted protein, acidic, cysteine-rich
129488	AA228107	AW966728	Hs.54642	methionine adenosyltransferase II, beta
101838	AA449789	BE243845	Hs.75511	connective tissue growth factor

413731	AA449789	BE243845	Hs.75511	connective tissue growth factor
129557	W01367	AL045404	Hs.46366	KIAA0948 protein
129619	AA610116	AA209534	Hs.284243	tetraspan NET-6 protein
129627	AA258308	T40064	Hs.71968	Homo sapiens mRNA; cDNA DKFZp564F053 (fr
129762	AA460273	AA453694	Hs.12372	tripartite motif protein TRIM2
129884	AA286710	AF055581	Hs.13131	lysosomal
130018	T68873	AA353093		metallothionein 1L
130147	D63476	D63476	Hs.172813	PAK-interacting exchange factor beta
130178	M62403	U20982	Hs.1516	insulin-like growth factor-binding prote
130282	X55740	BE245380	Hs.153952	5' nucleotidase (CD73)
130431	L10284	AW505214	Hs.155560	calnexin
130495	AA243278	AW250380	Hs.109059	mitochondrial ribosomal protein L12
130553	AA430032	AF062649	Hs.252587	pituitary tumor-transforming 1
130638	H16402	AW021276	Hs.17121	ESTs
130639	D59711	AI557212	Hs.17132	ESTs, Moderately similar to I54374 gene
130657	T94452	AW337575	Hs.201591	ESTs
130686	AA431571	BE548267	Hs.337986	Homo sapiens cDNA FLJ10934 fis, clone OV
130776	R79356	AF167706	Hs.19280	cysteine-rich motor neuron 1
130818	AA280375	AW190920	Hs.19928	hypothetical protein SP329
130840	Z49269	BE048821	Hs.20144	small inducible cytokine subfamily A (Cy
130899	Z41740	AI077288	Hs.296323	serum/glucocorticoid regulated kinase
131002	AA121543	AL050295	Hs.22039	KIAA0758 protein
131080	J05008	NM_001955	Hs.2271	endothelin 1
131084	AA101878	NM_017413	Hs.303084	apelin; peptide ligand for APJ receptor
131091	T35341	AJ271216	Hs.22880	dipeptidylpeptidase III
131107	N87590	BE620886	Hs.75354	GCN1 (general control of amino-acid synt
131182	AA256153	AI824144	Hs.23912	ESTs
131207	W74533	AF104266	Hs.24212	latrophilin
131319	U25997	NM_003155	Hs.25590	stanniocalcin 1
131328	V01512	AW939251	Hs.25647	v-fos FBJ murine osteosarcoma viral onco
131509	X56681	X56681	Hs.2780	jun D proto-oncogene
131555	AA161292	T47364	Hs.278613	interferon, alpha-inducible protein 27
131564	AA491465	T93500	Hs.28792	Homo sapiens cDNA FLJ11041 fis, clone PL
131573	AA046593	AA040311	Hs.28959	ESTs
131692	D50914	BE559681	Hs.30736	KIAA0124 protein
131756	D45304	AA443966	Hs.31595	ESTs
131859	M90657	AW960564		transmembrane 4 superfamily member 1
131909	W69127	NM_016558	Hs.274411	SCAN domain-containing 1
131915	AA316186	AI161383	Hs.34549	ESTs, Highly similar to S94541 1 clone 4
132046	AA384503	AI359214	Hs.179260	chromosome 14 open reading frame 4
132050	AA136353	AI267615	Hs.38022	ESTs
132151	AA044755	BE379499	Hs.173705	Homo sapiens cDNA: FLJ22050 fis, clone H
132164	U84573	AI752235	Hs.41270	procollagen-lysine, 2-oxoglutarate 5-dio
132187	AA058911	AA235709	Hs.4193	DKFZP586O1624 protein
132303	AA620962	BE177330	Hs.325093	Homo sapiens cDNA: FLJ21210 fis, clone C
132314	AA285290	AF112222	Hs.323806	pinin, desmosome associated protein
132358	X60486	NM_003542	Hs.46423	H4 histone family, member G
132398	R31641	AA876616	Hs.16979	ESTs, Weakly similar to A43932 mucin 2 p
132421	AA489190	AW163483	Hs.48320	double ring-finger protein, Dorfin
132490	F13782	NM_001290	Hs.4980	LIM domain binding 2
132520	AA257993	AA257992	Hs.50651	Janus kinase 1 (a protein tyrosine kinas
132546	M24283	M24283	Hs.168383	intercellular adhesion molecule 1 (CD54)
132610	AA443114	AA160511	Hs.5326	amino acid system N transporter 2; porcu
132716	T35289	BE379595	Hs.283738	casein kinase 1, alpha 1
132840	N23817	BE218319	Hs.5807	GTPase Rab14
132883	AA047151	AA373314	Hs.5897	Homo sapiens mRNA; cDNA DKFZp586P1622 (f
132968	N77151	AF234532	Hs.61638	myosin X
132989	AA480074	AA480074	Hs.331328	hypothetical protein FLJ13213
132999	Y00787	Y00787	Hs.624	interleukin 8
133071	T99789	BE384932	Hs.64313	ESTs, Weakly similar to AF257182 1 G-pro
133076	W84341	AW946276	Hs.6441	Homo sapiens mRNA; cDNA DKFZp586J021 (fr
133099	L09209	W16518	Hs.279518	amyloid beta (A4) precursor-like protein
133147	D12763	AA026533	Hs.66	interleukin 1 receptor-like 1
133149	T16484	AA370045	Hs.6607	AXIN1 up-regulated
133161	AA253193	AW021103	Hs.6631	hypothetical protein FLJ20373
133200	AA432248	AB037715	Hs.183639	hypothetical protein FLJ10210
133220	X82200	NM_006074	Hs.318501	Homo sapiens mRNA full length insert cDN
133260	AA083572	AA403045	Hs.6906	Homo sapiens cDNA: FLJ23197 fis, clone R
133295	L00352	AI147861	Hs.213289	low density lipoprotein receptor (famili
133349	N75791	AW631255	Hs.8110	L-3-hydroxyacyl-Coenzyme A dehydrogenase
133391	X57579	AW103364	Hs.727	inhibin, beta A (activin A, activin AB a
133398	X02612	NM_000499	Hs.72912	cytochrome P450, subfamily I (aromatic c
133436	H44631	BE294068	Hs.737	*immediate early protein*
133454	AA090257	BE547647	Hs.177781	hypothetical protein MGC5618
133478	X83703	X83703	Hs.31432	cardiac ankyrin repeat protein
133491	L40395	BE619053	Hs.170001	eukaryotic translation initiation factor

133510	AA227913	AW880841	Hs.96908	p53-induced protein
133517	X52947	NM_000165	Hs.74471	gap junction protein, alpha 1, 43kD (con
133526	M11313	AU077051	Hs.74561	alpha-2-macroglobulin
133538	L14837	NM_003257	Hs.74614	tight junction protein 1 (zona occludens
133562	M60721	M60721	Hs.74870	H2.0 (Drosophila)-like homeo box 1
133584	D90209	D90209	Hs.181243	activating transcription factor 4 (tax-r
133590	T67986	T70956	Hs.75106	clusterin (complement lysis inhibitor, S
133617	AA148318	BE244334	Hs.75249	ADP-ribosylation factor-like 6 interacti
133651	U97105	AI301740	Hs.173381	dihydropyrimidinase-like 2
133671	T25747	AW503116	Hs.301819	zinc finger protein 146
133678	K02574	AW247252		nucleoside phosphorylase
133681	D78577	AI352558		tyrosine 3-monooxygenase/tryptophan 5-mo
133722	X53331	AW969976	Hs.279009	matrix Gla protein
133730	S73591	BE242779	Hs.179526	upregulated by 1,25-dihydroxyvitamin D-3
133750	X95735	BE410769	Hs.75873	zyxin
133802	L16862	AW239400	Hs.76297	G protein-coupled receptor kinase 6
133825	U44975	BE616902	Hs.285313	core promoter element binding protein
133838	M97796	BE222494	Hs.180919	inhibitor of DNA binding 2, dominant neg
133859	U86782	U86782	Hs.178761	26S proteasome-associated pad1 homolog
133889	AA099391	U48959	Hs.211582	myosin, light polypeptide kinase
133960	M19267	M19267	Hs.77899	tropomyosin 1 (alpha)
133975	D29992	C18356	Hs.295944	tissue factor pathway inhibitor 2
133977	L19314	AI125639	Hs.250666	hairy (Drosophila)-homolog
134039	S78569	NM_002290	Hs.78672	laminin, alpha 4
134075	U28811	NM_012201	Hs.78979	Golgi apparatus protein 1
134081	L77886	AL034349	Hs.79005	protein tyrosine phosphatase, receptor t
134164	C14407	AW245540	Hs.79516	brain abundant, membrane attached signal
134203	M60278	AA161219	Hs.799	diphtheria toxin receptor (heparin-bindi
134238	R81509	AA102179	Hs.160726	Homo sapiens cDNA FLJ11680 fis, clone HE
134299	AA487558	AW580939	Hs.97199	complement component C1q receptor
134332	D86962	D86962	Hs.81875	growth factor receptor-bound protein 10
134339	AA478971	R70429	Hs.81988	disabled (Drosophila) homolog 2 (mitogen
134343	D50683	D50683	Hs.82028	transforming growth factor, beta recepto
134381	U56637	AI557280	Hs.184270	capping protein (actin filament) muscle
134403	M61199	AA334551		sperm specific antigen 2
134416	M28882	X68264	Hs.211579	melanoma cell adhesion molecule
134493	X15183	M30627	Hs.289088	heat shock 90kD protein 1, alpha
134558	S53911	NM_001773	Hs.85289	CD34 antigen
134817	U20734	AU076592	Hs.198951	jun B proto-oncogene
134983	D28235	D28235	Hs.196384	prostaglandin-endoperoxide synthase 2 (p
134989	AA236324	AW968058	Hs.92381	nudix (nucleoside diphosphate linked moi
135052	AA148923	AL136653	Hs.93675	decidual protein induced by progesterone
135062	AA174183	AK000967	Hs.93872	KIAA1682 protein
135069	AA456311	AA876372	Hs.93961	Homo sapiens mRNA; cDNA DKFZp667D095 (fr
135071	L08069	W27190	Hs.94	DnaJ (Hsp40) homolog, subfamily A, membe
135073	AA452000	W55956	Hs.94030	Homo sapiens mRNA; cDNA DKFZp586E1624 (f
135170	AA282140	T53169	Hs.9587	Homo sapiens cDNA: FLJ22290 fis, clone H
135196	J02854	C03577	Hs.9615	myosin regulatory light chain 2, smooth
135348	AA442054	U80983	Hs.268177	phospholipase C, gamma 1 (formerly subty

TABLE 4A

Table 4A shows the accession numbers for those pkeys lacking unigeneID's for Table 4. The pkeys in Table 7 lacking unigeneID's are represented within Tables 1-6A. For each probeset we have listed the gene cluster number from which the oligonucleotides were designed. Gene clusters were compiled using sequences derived from Genbank ESTs and mRNAs. These sequences were clustered based on sequence similarity using Clustering and Alignment Tools (DoubleTwist, Oakland California). The Genbank accession numbers for sequences comprising each cluster are listed in the "Accession" column.

Pkey: Unique Eos probeset identifier number
CAT number: Gene cluster number
Accession: Genbank accession numbers

Pkey	CAT Number	Accession
100752	33207_21	T81309 BE019033 R94181 BE019198 NM_000612 J03242 AW411299 BE300064 BE297544 R94182 AW630108 T53723 D58853 H78073 H80594 BE299560 T48899 H70196 M17426 N77077 S77035 H58384 H61664 H78540 T84527 C17198 H60255 H71980 R92644 W79050 X00910 M29645 R91055 M17863 M17862 T71815 BE299561 BE464561 X06260 R94741 T54216 C18594 BE262015 X06161 AW409889 AA378400 BE263228 BE313278 R88116 BE313457 H43500 T48617 BE313761 H77309 AI207601 X06159 H40413 X03425 T87663 R10627 X03562 M14118 W03982 R97520 H81229 T83157 H83168 H48762 AA669898 BE263054 H47289 AA022807 R11555 H74260 R76968 R28338 H72534 H72464 H62031 N72478 N45355 AW411300 R89113 R69135 H58454 T83281 R93476 H69645 H68015 T82229 H71089 T85121 H59939 W65299 N78176 H53909 N72373 R21788 H04660 H59639 H61874 BE262219 T53614 N73335 N50464 W00943 N77189 R89257 AA570502 R89432 R06366 AA553480 AA776271 AA551359 AA551050 H51670 AA601052 BE299081 H68198 H52276 BE207832 N91192 H70332 X07868 X07868 H69464 H53782 H73710 R80435 AA553384 AW884176 N53475 T71662 AW954036 AW954033 AA552931 H93206 AA430218 AA553476 AI918470 T54124 BE207982 BE300177 N73994 AW882625 N39549 N53838 AA722389 H71878 H58909 H37849 H78435 T47933 R77174 R83814 AA411890 H94199 AA663208 BE205778 AA490137 H70492 R98232 H37800 AA679294 H40341 H74238 H47290 H73231 T48618 AA025428 AI039521 H92969 N59389 H80538 H72933 T90630 AA411891 N55000 H74225 AA340290 AW957061 T54316 AA340437 H57125 H58908 H79027 H63450 N74623 R93425 H68714 H68758 N68396 H48763 N69256 H57320 H53831 H53589 N68833 N52453 H56048 H69870 H78074 R69253 R83375 T53615 H94330 H58455 H90864 T47934 H74261 R89258 R97997 R91056 R28339 R86760 H78235 R97521 H67692 H40358 AA022688 H52513 H59601 T88690 H65256 H63397 W65397 AA553588 R19280 N52645 W73930 R06367 R21743 H72372 N73921 AW883539 AW882639 T40616 H47084 R95723 AA634316 AA862781 H77310 R91389 H93111 R92767 T54512 R89341 H70333 H57817 H82941 H62032 N52638 H58385 T91796 H51086 AA340292 T49918 H81230 R36121 N50411 T87664 N62436 N39340 AA665637 AA340446 H93377 H92973 BE296290 BE269788 H61665 AA340444 N54605 AA454101 R10628 R94200 AI200549 AA342640 BE298855 BE250229 T49916 H82008 N28278 AW880662 H71268 N76791 H47685 H65255 W05198 AW889144 N76677 H71702 H68036 H71915 R91612 R87807 H68059 AI133328 AI247866 AA621443 AW881050 AA700847 AA340413 AW878608 AW881181 AW878249 H71916 N54596 BE161581 AW878082 W04212 AW881040 AW885492 AW880519 AA334887 AW878715 W06882 AW630222 AW885381 H70869 AW381778 H47601 AW889982 H63868 AW884986 AW878713 AW878685 R36391 AW878694 AA368070 C03393 AW878695 AW878705 AW878665 AW878742 AW878620 AW878823 AW878688 R29048 AW878690 AW878686 AW878810 AW878827 AW878733 AW878659 AW878749 AW878681 AW883353 AW883277 AW883300 AW883565 AW883298 AW883143 AW883045 AW883482 AW883352 AW883417 AW883357 AW883231 AW883474 AW883355 AW882620 AW882533 AW883754 AW883139 AW882827 AW883641 AW883567 AW883481 AW882983 AW882982 AW882465 AW883419 AW882466 AW883639 AW883230 AW882981 AW882534 AW882874 AW882619 AW883480 AW882826 AW882831 AW882835 AW882830 AW883563 AW882456 AW627642
117156	145392_1	W73853 AA928112 W77887 AW889237 AA148524 AI749182 AI754442 AI338392 AI253102 AI079403 AI370541 AI697341 H97538 AW188021 AI927669 W72716 AI051402 AI188071 AI335900 N21488 AW770478 W92522 AI691028 AI913512 AI144448 W73819 AA604358 N28900 W95221 AI868132 H98465 AA148793
131859	3672_1	AW960564 AA092457 T55890 D56120 T92525 AI815987 BE182608 BE182595 AW080238 M90657 AA347236 AW961686 AW176446 AA304671 AW583735 T61714 AA316968 AI446615 AA343532 AA083489 AA488005 W52095 W39480 N57402 D82638 W25540 W52847 D82729 D58990 BE619182 AA315188 AA308636 AA112474 W76162 AA088544 H52265 AA301631 H80982 AA113786 BE620997 AW651691 AA343799 BE613669 BE547180 BE546656 F11933 AA376800 AW239185 AA376086 BE544387 BE619041 AA452515 AA001806 AA190873 AA180483 AA159546 F00242 AI940609 AI940602 AI189753 T97663 T66110 AW062896 AW062910 AW062902 AI051622 AI828930 AA102452 AI685095 AI819390 AA557597 AA383220 AI804422 AI633575 AW338147 AW603423 AW606800 AW750567 AW510672 AI250777 AA083510 AW629109 AW513200 AA921353 AI677934 AI148698 AI955858 AA173825 AA453027 AI027865 AW375542 AA454099 AA733014 AI591384 R79300 R80023 AA843108 AA626058 AA844898 AW375550 AA889018 AI474275 AW205937 AI052270 AW388117 AW388111 AA699452 AI242230 N47476 H38178 AA366621 AA113196 AA130023 H39740 T61629 AI885973 AW083671 AA179730 AA305757 AI285455 N83956 AA216013 AA336155 AW999959 T97525 AA345349 T91762 AA771981 AI285092 AI591386 BE392486 BE385852 AA682601 AI682884 AA345840 T85477 AA292949 AA932079 AA098791 D82607 T48574 AW752038 C06300
125565	1704098_1	R20840 R20839
133607	1227_6	BE273749 BE397561 BE387189 AL037858 AL037878 AI963094 BE259216 AA011363 AL036189 BE562325 AA251169 BE617431 N98537 AA158093 AL047800 M34539 NM_000801 AA312140 D16971 AA158904 AA307114 AA312803 T09203 AW629686 AL048504 BE388578 AA220957 AA158364 BE267385 AA294971 C18055 BE241757 AA115056 AI936769 BE378435 BE206971 AW674924 BE622060 AA604674 AA115273 AW402159 AA338608 BE568819 M80199 X55741 AA375111 AA376016 BE612671 AA805742 AW405588 N25850 N44580 H06031 AW403549 BE536552 AA056726 BE543239 AA082517 AI201645 AI201642 AI192622 N40104 AA370921 BE547569 AI969602 AA302038 AI197890 AW268354 AI014938 W45448 AI541395 AA037272 BE538826 AL039613 BE536130 AA299355 AW805147 AW974624 H53220 AI471471 AA399303 AA007386 W35106 BE613277 R12739 R12738 AA304342 AA687802 BE409581 AI498844 AV662092 AW904105 AA011375 BE315214 H99302 BE537893 N32299 AW855829 AI291320 BE078322 AI301395 AA303362 N32719 AA358328 AA357877 AI952540 H56279 H02758 H02048 AW805233 R82224 AA410772 AA291352

		BE171109 N69935 BE169248 AA361173 H44978 BE617887 D52560 AA084043 W03595 R67219 N36477 N42924 R67104 H44901 H79695 W21105 AA393988 W30899 AA316096 BE622896 W46872 AA442678 BE544893 BE540112 BE621873 AA338067 N55052 BE398154 BE621210 AA740760 C03739 C03206 BE396692 AA482370 AA031614 AA301575 AA304710 AA132153 AA029796 AA994960 H19567 AA442969 H49781 H46871 AA035395 AA056185 AA149378 AA643080 AL135479 AA292329 AA654337 AA041228 AA454888 AA025039 W58331 AA625981 T94941 AA302448 H19900 AA218956 AA513790 AA563962 AA398076 W44441 AA293276 W47373 AA625879 W30688 AA043029 T64284 R79151 AA304340 AA485186 AA604939 R82470 AA421425 AW771456 AI339329 AA304424 AA605236 AA936934 AA587673 AI209162 AI697301 AI479995 AI679814 AI361950 AW189125 AI955888 AI986019 BE301019 AI084792 AI310211 AW189307 AI022070 AW977204 AI146825 AW190163 AW303281 AI828345 BE046043 AW029257 AA482268 AI246507 AI420729 AW084932 AW439514 AI890487 AW439692 AI523896 AI186612 AI659953 AI889773 AA687527 AW072694 AW262153 AW467371 AI613269 AI679238 D54404 AA158103 AW105527 AW149739 AW150361 AW268387 AW117708 AI951682 AI687440 AW674285 AA678365 AI587082 AA732095 AA019899 W45661 AA627300 BE613304 AA765891 AA612935 AI814658 AW316916 R66594 AA514640 AA025040 AA031472 AW732076 AA029797 AI244560 AI128734 AW381720 AI092360 AI263283 AW613175 AI890675 AI720156 AW631348 AI635106 AI278045 AA303979 AA703505 W45449 AW078661 AI292052 AW381707 AI147854 AW381743 AA158905 AA303258 AA888144 AW195967 AA428706 AA989559 AA617731 H19882 BE543418 AA830386 AA421302 W58652 T94995 AI869743 AI679145 AW085971 N98425 AA765136 AI347027 AI356955 AA928038 AI679717 AA458459 AA679281 AI367973 AI270041 AA765135 AA732793 AI798447 AA668646 AA251008 AI984538 AI401737 AA056186 BE043308 AW662375 AI302110 N50724 W96332 BE537047 N26983 AI567172 AA765296 AW673237 N29784 AA534275 AA084044 AW067973 AW300766 T63398 W46823 R39790 AI364185 AW298582 AA454814 AW069878 N67751 H05982 N23140 AI362647 AI302086 AI767772 N25755 H53114 AA706133 T93511 AA429291 AA935294 AA987647 W02803 R66595 AI680795 W23673 AW440794 AA722872 H49538 AW131042 AA531603 AA908665 AA040791 AA235312 W52205 N93444 R82180 H02759 H79696 AW088894 H56079 AA961143 AW067776 AW973745 AA016311 AW071227 AA017511 AI753994 W47374 T64155 AA296092 AI698626 AA558158 AA296088 AW794259 H01963 AA149267 AA485076 AA975856 H44938 AA035396 AI955555 H46289 AA486161 AI631222 AA359047 AW794253 AI806962 AW243930 AA526145 AW878734 AA018464 AA132031 R67220 R79152 AA296093 H54300 AI005160 BE242548 AW992803 AW878644 AW878666 T27742 R82471 AW517604 AW472738 AI282904 R39791 AA486098 AW467891 AW960520 AA551736 AA056621 AW945197 R66373 AA554236 BE242202 AI904376 AI832590 H19484 R00890 AI627677 AA302287 AI869451 AI734855 AI708073 AI832902 AA585184 AW204299 AA055565 D12417 D11975 T63543 AW664099 R54423 BE612712 T96340 T63985 AA598917 T40735 T64053 AA149284 AW272548 AA363445 AA042893 AW300697 BE261973 T53501 T53500 AW878729 AW878657 AW794391 AA069193 R01553 H44875 AA385406 AA533968 M93060 AL135600 W96331 AA017651 AA018849 AA017692 H85337 BE278690 AA731598 AA018512 AI076813 AI022644 R02585 X52220 AW296894 AA825671 AI699321 AI393601 AW592611 AI146747 AA608921 AA158365 AW590007 AA354519 D20081 R02704 AW798339 M92422 AA094903 AA007676
133681	13893_1	AI352558 Z82248 X78138 NM_003405 AU077248 AA223125 S80794 D78577 AI124697 AW403970 BE614089 BE296713 BE621334 L20422 X80536 D54224 D54950 X57345 N29226 AA127798 AA340253 F08031 AA192540 H67636 AA321827 AW950283 AA084159 BE538808 AW401377 AA256774 C03366 W46595 W47608 AA305009 H69431 H69456 AL120082 H11706 AA303717 AA361357 H22042 H78020 AW999584 AA134368 AA322911 AA322961 H60980 N85248 N31547 H79624 T11718 W85826 AW894663 AW894624 BE167441 BE170015 AA304626 AW602163 AW998929 AA156681 AA151067 BE002724 AA608688 H82692 BE155392 AW383636 BE155394 AA487004 AW383504 AI342365 R82553 W16498 BE155344 AI143938 R69901 AA322873 AW340648 R25364 AA367935 AI559406 AA033522 AA374252 AW835019 AI922133 AI697089 N99662 AW189078 AI199076 AW151598 W59944 AA662875 W94022 AA299055 AI039008 AI829449 AA583503 AI635674 AW131665 AI473820 AW273118 AW900930 AA908944 AI688035 AW170272 AI082545 AW468176 AI608761 AI082748 AI911682 AI248943 AI831016 AA192465 AI218477 AA938406 AA385288 AI809817 AA905196 AI191245 AI470204 AI188296 AI421367 AI125315 AI087141 AA629032 AA740589 AI554181 AA150830 AI248541 AI077943 AA775958 AA864930 AI261476 AI123121 AI310394 AA862331 AA872478 BE537084 AI205606 AA720684 AI872093 AW150042 AL120538 AA219627 AA988608 C21397 AI359337 H25337 AI089749 AA605146 AI359620 AA150478 AI359738 AW383642 AW995424 AI766457 R56892 AI089839 W61343 N69107 W46459 AA565955 N20527 AI279782 W46596 AA776573 H23204 AI866231 AI083995 N21530 AA126874 D82630 W65437 AI086917 AW382095 AI086877 H69844 AW340217 W85827 L08439 AA262704 AA505380 W47413 W94135 AA223241 AW089153 AA084101 BE538000 AA096126 T28031 AA491574 R84813 AA774536 AW383522 AA155615 AW383529 AA491520 AW028427 AA171496 AI469689 AW664539 AI811102 AI811116 BE464590 BE350791 H78021 T15405 H21979 AA219489 H13301 AA505883 AI864305 AI423963 AW084401 F04963 R69858 H67097 AI917740 AI655561 H69864 AA033631 AW383484 AI886261 H25293 AA513281 AW271187 H11617 N79982 AI174338 AI904207 AI904208 BE614558 W94127 W65436 AI272249 AA700018 AI579932 AI085941 AW152629
134403	17037_1	AA334551 BE008229 AA307537 AW961156 AW995894 AW995826 NM_006751 M61199 AA045603 AL036372 AV645606 AI688095 AW351901 AA101337 AA101345 N73342 BE018030 BE569044 AW841975 AA373388 BE090412 H95440 N53845 R67867 AA093441 AA363427 H93708 AW023134 AW994986 AW994989 BE090429 R23614 AI567932 H03726 H01101 H01867 AA548743 AI671806 AW872949 AW872941 AA742447 AI199788 AA045604 AI637465 AI741796 AW242217 AW131463 AI765302 AI683923 AA889762 AI804889 AI986437 C06049 BE502340 AI695651 AI491970 AA496804 AA281008 AA665699 AI473814 BE301445 AA707837 AA551925 AI017348 AI208185 AA775203 AA156296 AA557463 H95441 AA768547 AW769358 AA991197 AA181954 AI091389 AI147289 AW771837 AI638582 AA844411 AI374750 T29320 AW951272 AW085923 H02834 AA843259 AA814696 AW183290 AA158453 N68125 N69039 AA100423 AA101346 AI918720 H01102 R67868 H01868 N66438 R46580 AI858433 AA599560 AA187577 AA157481 AA361520 AL047827 AA158452 R21688 AW964874 AA325161 R40871 AW752395 AW375924 R13355 AA281174 AA428908
126872	142696_1	AW450979 AA136653 AA136656 AW419381 AA984358 AA492073 BE168945 AA809054 AW238038 BE011212 BE011359 BE011367 BE011368 BE011362 BE011215 BE011365 BE011363
121335	279548_1	AA404418 AI217248
130018	18986_1	AA353093 AW957317 AW872498 AI560785 AI289110 AW135512 X97261 T68873
121822	244391_1	AI743860 N49543 AW027759 BE349467 AI656284 BE463975 R35022 AA370031 AW955302 AL042109 N53092 AI611424 AL079362 AI969290 AI928016 BE394912 BE504220 BE467505 AI611611 AI611407 AI611452 W56437 AI284566 AI583349 AW183058 AI308085 AI074952 AA437315 AA628161 AW301728 AI150224 AA400137 AA437279 AI223355 AA639462 AI261373 AI432414 AI984994 AI539335 AA401550 AA358757 AI609976 AA442357 AA359393 AA437046 AA370301 AA429328 AW272055 AI580502 AI832944 AI038530 AA425107 AI014986 AI148349 AW237721 AW779756 AW137877 AI125293 AA400404 R28554
123523	genbank_AA608588	AA608588

123533	genbank_AA608751	AA608751
125091	genbank_T91518	T91518
123964	genbank_C13961	C13961
102491	entrez_U51010	U51010
118475	genbank_N66845	N66845
118581	genbank_N68905	N68905
113947	genbank_W84768	W84768
101447	entrez_M21305	M21305
101667	13349_1	NM_005381 M60858 AW373732 AW373724 AW373689 AW373629 AW373609 AW373776 AA187806 AW386946 AW374207 T05235 AA216203 AW385556 AA306940 AA306526 AA315461 AL036757 AW373711 AW403124 AW403640 AW377084 T27360 H62638 F06957 AW377051 AA554779 AA378568 AA096007 AW352407 AW302637 F07929 H17433 AW382712 H05665 F07292 N39875 AA089729 H62556 N42842 R12952 AW373735 AW364155 AA056183 W39185 AW382708 N32488 AF114096 AW375993 AI133569 W52561 AA603040 AA133710 AI928796 AW176370 AA827519 AW338437 AA521142 T29341 AI800461 AW317002 AA703914 AA860830 AI859203 AI445772 AA714334 AI817066 AI832027 AW510442 AI635802 AW088306 AW068672 AW408555 AW467542 AA552657 AA152367 W32081 AA582124 AA074040 AA931657 AI051154 AW410203 AI921644 H17434 AI832330 AW404836 AI925038 AA088423 AA954166 AA580453 AW021292 AI267215 AW080082 AW383778 AI933053 AI919097 W31557 N90245 AA931591 AA563995 F36352 AA056184 AA476294 AA641327 AA533550 AI749630 W58323 AA569119 AA508573 AI809050 AI378996 AA411362 AW407505 AA938104 AA074041 AA632876 AW193748 AA507873 AI270128 AI472365 AA411363 AI523216 AI719965 AI816302 AA182681 AI707990 AA133588 AI758537 W60253 AI460308 AA135423 AI083904 F04188 N89693 AW408776 AI678595 AI270568 AA722059 W58234 F33650 AA090547 AA285108 AA425981 N85079 D20218 AI273980 AA159028 F03226 AW247914 N26918 AW272741 N90109 H05666 N23327 AW247953 R44748 AA962015 F03558 AI752394 AW409913 AW248396 AI816463 AI752393 AA325370 AA263089 AI570130 AI971951 AI160658 AI357360 AW168686 AL121075 AW050536 N21672 W67748 AA514242 AI127386 H14607 AI185752 W79364 AA088520 AA152476 AW351940 AW373683 AI940524 AW374953 T56500 N24329 AI940720 AW374933 AW374947 AW391913 AL138337 AW376241 AW062943 F26666 AW410202 AW062958 F34529 AW381807 AW393315 W17147 AW176359 AA664576 AW380424 AA306040 AI745674 AW300951 AI188579 AI438973 AI305271 AA433818 AA612807 AI831809 AI940409 AA158663 AI572988
108931	genbank_AA147186	AA147186
103138	entrez_X65965	X65965
103432	entrez_X97748	X97748
119174	genbank_R71234	R71234
133678	11235_1	AW247252 AA346143 NM_000270 AA381085 N91995 X00737 AA381079 AA296473 AA296110 AA315735 AA311617 AA326750 AA376804 AW403290 T95231 M13953 T47963 H82039 AA279899 AA627997 N76320 N99527 H37842 W20095 AA457308 AW469547 AA724143 H83220 AA319496 W86334 W30892 R89169 R99427 N41854 H47286 AA348094 AA045089 R63016 AI922219 AI024906 AI096488 AI885005 AA194872 N90489 AI452544 H72411 AA282427 AA430735 R68963 R22453 H70385 AW129369 AW467320 AW519082 AA345018 AA582183 AI961789 R65918 N30611 AI979189 AI280889 AW273191 R66531 AI285845 AI675927 AI421990 AW190879 H37794 AA699667 H68427 AA954388 AI188757 AI140048 AA430382 AI204151 AW247864 AA559099 AI431420 AA548276 AI149466 AA772669 AA694388 AA724168 AA301651 AA281952 AA779925 AA234760 W86290 AA913603 AW511745 AI500697 AA814922 AA835040 T47964 H53998 AA975804 R98710 AI077604 N70252 R98084 AW250171 H69268 AI597614 AA970746 AA972548 AI377116 R62962 H16737 R89070 AA731329 R66532 N54354 AI818832 H81944 N71567 T95122 W86463 AA437095 AI431999 AI915724 N63851 AI674743 AA457307 AA211475 N64444 AI799146 H72853 R99335 H60413 AA770367 AA156105 AI269937 H64029 H89728 R65819 AW470496 AI873318 AI735713 H82987 C02447 AI478666 T27651 AI699770 AW025156 H69719 AI984717 N69225 AI459856 AA953577 AI424691 H13843 R22404 AI873796 AI336002 N70898 AI420854 AA541792 AA346142 AI000814 AI828348 AA045090 T51257 N90434 H13890 N73184 AI708083 AA781606 AA329050 AA339985 R68964 H64795 W04186 H16845
119416	genbank_T97186	T97186
119559	NOT_FOUND_entrez_W38197	W38197
123473	genbank_AA599143	AA599143

TABLE 5:

Pkey: Unique Eos probeset identifier number
Accession: Accession number used for previous patent filings
ExAccn: Exemplar Accession number, Genbank accession number
UnigeneID: Unigene number
Unigene Title: Unigene gene title

Pkey	Accession	ExAccn	UniGene	UnigeneTitle
115819	AA426573	AA486620	Hs.41135	AA486620
132837	D58024	AA370362	Hs.57958	AA370362
101545	M31210	BE246154	Hs.154210	BE246154
102898	X06256	NM_002205	Hs.149609	NM_002205
101192	L20859	BE247295	Hs.78452	BE247295
102915	X07820	X07820	Hs.2258	X07820
105330	AA234743	AW338625	Hs.22120	AW338625
107385	U97519	NM_005397	Hs.16426	NM_005397
102024	U03877	AA301867	Hs.76224	AA301867
134416	M28882	X68264	Hs.211579	X68264
103036	X54925	M13509	Hs.83169	M13509
104865	AA045136	T79340	Hs.22575	T79340
106124	AA423987	H93366	Hs.7567	H93366
105330	AA234743	AW338625	Hs.22120	AW338625
109001	AA156125	AI056548	Hs.72116	AI056548
104764	AA025351	AI039243	Hs.278585	AI039243
133200	AA432248	AB037715	Hs.183639	AB037715
105263	AA227926	AW388633	Hs.6682	AW388633
105178	AA187490	AA313825	Hs.21941	AA313825
109456	AA232645	AW956580	Hs.42699	AW956580

TABLE 5A

Table 5A shows the accession numbers for those pkeys lacking unigeneID's for Table 5. The pkeys in Table 7 lacking unigeneID's are represented within Tables 1-6A. For each probeset we have listed the gene cluster number from which the oligonucleotides were designed. Gene clusters were compiled using sequences derived from Genbank ESTs and mRNAs. These sequences were clustered based on sequence similarity using Clustering and Alignment Tools (DoubleTwist, Oakland California). The Genbank accession numbers for sequences comprising each cluster are listed in the "Accession" column.

Pkey:	Unique Eos probeset identifier number
CAT number:	Gene cluster number
Accession:	Genbank accession numbers

Pkey	CAT Number	Accession
115819	10241_1	AA486620 AF205940 AA297524 AB034695 AA081335 NM_016242 AA188323 AA297537 H88204 AW953081 W31695 AW582203 AA248250 AW681211 AA426230 AA464807 AA426155 N44141 AA347390 AA770661 AI333225 N36136 AW665724 AA431894 AI374976 AI400254 AI338446 AA186695 H88205 W04527 AA487066 AI051414 AA918383 AA426573 AA425620 AW438654 AA090513 BE167284 BE167291 AI301726
102024	14505_1	AA301867 AW957981 R27614 AA155808 AI920990 AI740711 AA301026 AA301015 AI220981 AI857670 AI537140 AW015210 AA030000 W46890 H44021 AI355967 AI651735 AA058479 AA146932 T58265 R85890 AA047810 AA017387 AW026093 AA971133 AI827263 AI056416 AI355994 AI127691 H46603 U03877 NM_004105 AA157357 H42844 AA146824 AA187709 AA187269 AA304348 AA147292 AA361687 AA156041 AA330636 R32929 AA321130 AW950260 AA082157 AA029129 AA303708 AA028155 D31561 T84689 AA302493 BE153057 BE153181 W39408 AA187200 BE153250 AW383337 AW382622 AW382647 AW750072 BE153060 AW382630 AW371865 AW392464 AW382664 AW382658 AW382650 H61647 AW365075 AW365049 AA373397 BE072779 BE072781 Z30254 W24381 BE153254 AA040442 BE072729 BE072731 N94740 AA146945 AW802737 AI826799 AI085395 R34034 H65140 AA082800 H88275 AA147824 R63882 W80899 AA296413 AI765300 AI862426 AW022055 AW300003 AI743784 AI862635 AI985428 AA147764 AW573245 AW190290 AI040898 D57613 N63457 AA148082 AI028458 AA148110 AW814489 N75105 AW629443 AA704122 AW582220 AA181240 AA057495 AI418224 AI261751 AW388595 AI472205 AW470672 AA102546 AA789046 AA182416 AA062668 AW300732 AI288220 AA181982 AA146825 AA028130 AI985522 AA303344 AA081313 N69082 AA182035 AI867128 AA100902 AA605087 N67178 AW020324 AW890446 AI472191 AI335691 AI597837 AI081143 AI335681 AA040443 AI128067 AI678244 AA018303 AA157260 W80792 AI934590 AI096430 T54343 AI446350 AA165196 AA780683 AA603631 AA047787 AA968580 AA912645 AW890504 AW026913 D56983 H52088 AA156121 R30848 AW023036 AI590960 N67345 AI753225 AI753283 AI183768 AA147818 H89101 AI362141 H89205 AI147711 AA321129 AA668622 AA343479 AW069438 AI422376 AW629270 AA013413 AI221948 AA970605 N52335 H38366 T91180 AA657841 AA017386 AA152227 AA187593 AI913340 AI719313 AI969943 AI701271 AI004328 AI868348 N93659 H65093 H25736 D57007 D56957 C00987 D61839 D56661 AI472137 AI971002 D56971 BE048830 D57972 AI589286 AI361055 AI361071 AI292223 AA155898 D57139 D57981 D57345 AI420034 D57332 D57959 AA875933 R33493 N67558 D58353 AA188394 AA147966 AI160640 AI363165 H40638 AA578137 AW950265 AA300943 AI128999 H46584 AA917355 N57820 AA320504 H51959 H25737
101545	24607_1	BE246154 M31210 NM_001400 AA193392 NM_016537 AF233365 AF022137 H27787 AA370448 F05373 T27666 W21494 AA036907 AI249966 N93476 F01623 AA304390 AA308808
109456	180633_1	AW956580 AA886361 AI147670 AI090115 AI168683 AA232645 H99504 AA374707 AA380875 AW139567 AI735132 BE439385 AW629780 N28322 AA232789 AA232790 N73285
103036	17145_1	M13509 X54925 NM_002421 M16567 X05231 M15996 W39354 AA186634 AA852324 AA187507 AA081149 AA186524 AA187264 AA187361 AA386155 AA186973 AA374217 U78045 AA081230 AA188049 AA186393 W56827 AA852602 AA157468 AA308204 AA186754 AA186808 AA082516 AA304334 AW376428 BE439384 AW376420 AA156273 T18504 AA186521 W49496 AW084608 AA083575 AA372360 AW963590 AA132297 W47445 AA186376 AA157628 AW003999 AI037890 AI858060 AI589010 AI743739 AI452673 AW304188 AW117854 BE439933 AA157416 AW778966 AI038497 AA081006 AA100829 AA181048 C02231 T27821 W23960 AW954802 AI471432 AW801296 AW801289 AW801603 AW801523 AW801292 AW801542 AW801601 AA181134 AI445147 AA191501 AA582862 N94407 AI147810 AA181880 W49497 W52714 AA188249 AI932881 AI082493 AA503656 AA182682 AW801393 AA182830 AA181882 AA182826 AI613182 N94510 W47343 AI085755 AI076956 AI918426 AA081208 AI282835 AA147528 AI081490 AI654536 AA181875 AA081282 AA186389 C06085 AA083542 AI800644 AA157642 AA101069 AA157752 AA158121 AA143331 AA081283 AA852603 AA188296 AI932880 AW449628 AA187348 C02091 AA514656 AA082736 AA308786 AA143201 M16567
133200	28960_1	AB037715 AI351347 AI375796 AI884765 AL121124 W01068 AI807275 T95240 R42807 AW515645 AI057314 AI033520 AA057671 N70215 AA054215 AW204183 AA552149 T95130 AW796310 AI866520 AW275564 AW796308 AI637901 AW197404 T78406 AA456232 AW206463 AA779800 AI052696 AA026744 AA454623 AW470729 R45490 AW770258 AI038393 AI290170 AA722734 AL121125 R41608 AI862414 AA838611 R45582 AI278083 BE466849 BE219944 AA418030 BE041555 AA578572 T16528 AW006344 Z39782 AI244848 AW137344 AA707400 AI032028 BE540464 AI094265 AI184281 AA931890 AW382744 AW382729 AW020448 AW827237 AA431226 AI672059 AW772345 N70172 AW022003 AI862704 H19344 R61511 AI080204 H16566 AA432248 AI767980 T16688 AI984342 AI217478 AI767095 Z38551 AI359566 AI361437 AI041000 R07033 H16608 H19054 R12874 R61567 N98368 BE221199 Z42320 AA094554 R07078 AW860886 AA418090 R41262
132837	256666_1	AA370362 AA364110 AW959554 AW371737 AW382068 AW604716 AW604713 AA487827 AW371674 AA429137 BE503321 T93570 W72803 AI093076 AA487977 AI241562 BE439445 AW204065 R51635 AI802994 T10362 W68553 AI866215 AW152154 AA700716 AI127443 R15824 AI537587 AA953110 D58024 AI520811 AA693670 AI453280 W76329 AW023955 AW022563
102898	24023_1	NM_002205 X06256 M13918 BE070866 AW239485 AW996127 BE273894 BE272590 BE410252 R25975 T11786 T11787 AA301142 AA301165 AW960506 BE272819 AA386086 T39391 AA285303 AA370580 D58585 T58668 AA156213 W24142 AA343323 AW796067 AA151197 AA376121 R94782 AA302363 H90357 R82621 AA301677 H55997 AW796059 W92358 AL046458 AA471198 AA301952 R46287 R82694 H03186 AA187706 R32562 R27094 R25947 R25320 AW949809 H13505 H79049 R32403 H11213 R39710 H49765 H21142 H21006 AA417664 W52075 N56771 AA284240 N98556 N30907

		AA707335 AW603781 AI340367 AI814584 AA524182 AA370076 AA418785 AA704082 AI806851 H25513 T56388 AA419627 H03986 H20963 T56245 AI459715 AW973768 AI334096 AI693020 T63414 R82646 AW167251 H55998 AI274916 AA778367 AI755253 AI033667 AW083222 AA181979 R26865 AA661627 AA706329 AI798648 AA612799 AI160180 AI274973 AI039264 AA301880 AI042429 AA307632 AI085688 AI278366 AI498890 AA303865 AI954844 AA502380 AA156334 AA723480 AI803584 AI581026 AA304584 N51038 R94702 R69814 AW150962 AI570049 AA588807 AA151198 T53400 AI567709 AI185326 AA309205 AW338969 R53903 AA991891 AA301643 AI493337 AI026049 H25514 AI741075 R28632 AW166445 AI333068 H49978 H91267 AA558193 AW079663 AA627380 AA807401 AI199956 AA666118 AI718216 AW193228 AI077745 AI500496 AI266059 AW080383 R06468 R26757 R32404 AA716599 W92322 AI077734 AI270181 R46198 AI217540 AA304045 AA305421 AW074445 AI468256 AW089568 AW571605 BE162930 H41009 AA578313 AW874497 AA181284 AA861947 T29451 D20841 T58618 AA418731 AI282500 AW081407 AA604560 AA729855 AI262538 AI580225
102915	2903_2	X07820 NM_002425 BE271570 AI263526 AW296143 AI829878 AI973162 AI085155 AA857496 AA709305 C02220
134416	30694_1	X68264 NM_006500 AF089868 BE257461 BE275425 AW997154 AI902799 AI902803 M78206 AA085691 AW392972 AA325490 BE006161 AA349269 AA323568 AL042548 AA191148 AA187703 AA322791 AJ297452 T11625 AW366487 AA303513 AA186961 AA173480 N28330 N28379 W40320 AA187118 H03695 AA402709 BE407476 H06354 BE276589 AA351284 AA379921 AL138060 BE410587 AA113094 AA340481 BE277483 R21191 R79518 N86170 AA320505 AA296065 AW951900 AA658897 AA650052 AA654304 AA191691 N26649 AW080963 AI265800 N72019 AI453458 AA092563 AA402310 AI439450 AI061054 AA302358 T71566 AA302047 AA303432 N21289 H27357 AA303504 AI174583 AW151762 AA181958 AW880618 AA630773 AI889539 AW901058 AI373405 AA341941 AA086217 AI675590 AI653936 AA633570 AA987619 AI270656 N93847 N40689 AW517517 N20030 W95985 AA303955 H89170 AA309917 N21642 AA373132 W38517 AI687806 W76182 AA101065 AA036916 N45635 AI744510 AI669803 AI039157 AI126355 AA634607 AW131120 AW196838 AA190601 AA911130 BE221320 N92355 AA036752 H03696 AA588873 AI458868 AI041818 AA090477 AI093248 AA304755 AL137942 AL044688 AI083709 AI150965 N88891 AA635675 AA594898 W94657 AA182823 AW166205 F27886 R79246 F37329 AA565697 AI075739 AI088654 AI094287 AI204256 AA095203 T93020 AA688298 AA057324 N23442 AA075411 AA305046 AI031688 AI191503 AA111887 AA112264 N27929 AA187509 AI375522 AI474006 H06297 AI826177 N48880 H28333 AA075490 R22809 W79542 AI055934 AA042901 AA173481 AA301986 W74531 AI051747 AA187715 AI888888 AA993017 AI057530 T92954 N80227 AW273595 AI351260 AW170643 AW292979 AA302605 AA302330 BE349495 AA328602 AA302361 AI470984 AA155943 AA155914
105178	7792_1	AA313825 AW960347 AF223468 NM_016613 AA186345 AA186508 AA081195 AA147972 AA346943 AW961667 AA187222 AA187207 AW371052 AW449751 AW748803 AW391606 AW371047 AW371057 AW371085 AW362895 AW371092 AW377556 BE010930 AI016882 AA247878 C04398 C05158 F11398 AA188315 H23385 R55086 H15346 AA029106 AA228114 H17005 F08498 Z43376 AA095582 AA055186 AA463361 R15218 AA299132 AW103578 W21538 AA428131 AA187115 AA157197 AA157167 AW371371 AA363562 AW965995 N55663 Z17878 AA228023 AI140342 AA100927 AA496988 AA055917 AI089303 AW014967 AW090248 AW338371 AW131066 D62963 D79713 AI583950 AI336781 AI500705 AI471485 AW090239 D79784 D61847 D62789 D61842 AI086327 AI273381 D61815 D63043 AI913548 AI280560 AI510828 AA029996 C16343 C16513 AI075741 AW516308 AI804764 AA948068 AI356588 AW103452 AW573063 Z39445 C16489 AI949870 F04712 AA147823 AW026284 AI151538 AA081303 AA613890 AI251865 AW086499 AA992111 AI862091 AI373465 BE502094 AI922270 AA884288 AA157079 N56963 AW189145 AA428080 R55056 AA884068 AW771716 AA186662 C16364 H15723 AI921181 AA156888 H17006 AA187490 AI400994 AA346942 H28533 AW129047 R41656 H14636 AA995041 D58370 Z21131 D58186 AI383271 AA643977 D58044 AI934302 AW779425 F09065 H14930 AA890693 H23274
105263	178672_2	AW388633 AW378440 AW388283 AW388339 AW388333 AW388414 AW388413 AW388607 AW388453 AW388687 AW388480 AW388591 AW388711 AW388511 AW388438 AW388570 AW388449 AI694383 AW237145 AI652991 AI964041 AW366319 AW366321 AW961938 AW469211 AI634155 AI492186 AI624430 AI677965 N26502 AI963871 AW378431 AW378421 AI015391 AW352126 N59336 AI352317 AW197113 N67998 AW778935 AI476054 AI206626 R37116 R40211 AA227926 AA639698 R38073 AI001745 T32854 AI619649 AI423703 F10774 AW388615 T16595 H05894
105330	182497_1	AW338625 R43226 R51640 AI307645 AI308100 AI085787 AI420357 AI692610 AA877160 AI953366 AA234743
104764	90967_1	AI039243 R68234 AA025351 AA971063 AI537757 AA025362 R81636 T86650
104865	102037_1	T79340 AI742317 AW182676 AW451460 AI420964 R43284 AA088179 AW590886 AW269529 AA045187 AI521736 AI827455 AA045136 AW271709 AI004344 AA639631 AA744417 AA744218 AA045357 AA045351
106124	54542_1	H93366 AI653547 AA336265 AW966175 BE566451 R71178 AI630656 AA234331 N55039 AA305632 AW960431 R34044 R32254 AW020970 AW451281 AW275041 AI636933 AI655640 AA423986 AA642466 AI684063 AI633876 AI624897 AA814795 AW590328 AI889166 AW243541 AI439691 AW473445 AI475516 AA741228 AI127534 AA165143 AI074714 AI654076 AA400674 AI560249 N50709 AW438621 AI806810 AI434579 AI308184 AA423987 AI141272 AI565586 AI338440 AA219628 AI246643 AI985809 AA724260 AA633988 AI364172 AI798439 AI650801 R33503 AI435891 AA903649 T96161 AA665538 AA219620 AI309962 AA400707 BE247066 R32178 AI275962 AA661602 AW003197 BE466649 AA831198 AI620052 AI825387 AI634037 AI670978 AI670979 AI655092 R32304 AA828858 AI382428 AW023660 AA262892 T26891 AW089917 T26926 R32227
107385	6976_1	NM_005397 U97519 AW899329 AI902387 AA077792 AA078525 AW376607 AA077946 AA070415 BE208721 AW167958 BE293050 BE208240 AI648698 AA101314 BE393348 BE305122 AA077591 BE274036 AA313687 BE392220 BE378954 AA171461 AA464821 AW938242 AW938224 AW938243 AW938232 AA147953 N64294 AA205218 AW305065 AW517478 AA307983 AA377023 BE563629 R99976 N80294 T87719 T87928 AA496849 AA486344 AA204938 AW370448 AA318242 AW964384 H92423 W95317 BE378774 BE391156 AA349138 AA173095 AW513198 AA037672 AA148029 AA169726 W04791 AA075508 BE382937 BE395034 AF139793 AA961734 N48612 H64714 AW151251 AI565113 AI566881 AW087370 AA631168 AA622014 AW513098 AI857810 AW152287 AI052596 AI983246 AA024856 AI912456 AI677938 AW026403 AA972537 AI088497 AW999869 W94582 AI140166 AI160659 AI566868 AA101263 AW190390 AW166466 AI401207 AI418156 AI625265 AI146298 AW008592 BE223020 N58926 AI308797 AA037673 AI935992 AI304706 AA024939 AI216589 AI610423 AI354621 AI500677 AI679389 AI799310 N64508 AI128756 AI679897 AW589535 AA989333 AI500527 AA565479 AA913529 AI923295 F21691 AA989376 AI699064 AA902447 AI690910 AA772659 AA204983 AI337895 R99975 H65205 AA340766 AI339441 AI913855 AA450293 AW192010 AA070416 N72401 AI371481 AI247108 AI371261 AI364987 AI280171 AI269104 AI868756 AA909836 AA983640 AI973271 AA913092 AI868205 AI144112 AI190975 N58085 AI566638 N93405 AW150504 AW296846 AI687036 AA902984 AI824460 AI625047 AA653148 AI611228 AW131922 AA862687 AA902519 C01732 AW796045 AL044660
101192	15367_1	BE247295 AW068092 AL041313 AA159244 NM_005415 L20859 AL135570 W47073 AW516906 BE388271 BE408629 W46972 BE293646 BE256647 AI075010 AL041095 AA285300 AL039560 AA368740 W26602 AA399344 AA039235 W27631 AW834898 AW834914 R93390 AA378039 AV649660 T53674 N98824 AA399974 AW843378 AA368267 R08256

		AV653575 R27900 N48215 AW366371 N45500 AV652967 AI889251 AI080457 N39021 AI738542 AW242849 AI857471 AI859775 AI582830 R75850 N66564 AW341636 AI499006 AI887217 AW026694 AW182840 AA039313 AA831346 AI393465 AW069210 AI743830 AA744243 AA401310 AW439758 AW088152 R93391 AA291379 AA225220 AW009358 AI192879 AA291202 AI565089 AA225089 AA807688 AI052058 AI341641 AI066625 AA333864 AA159147 AI923912 R75851 AI761143 AW768588 AA394195 AI288450 AW512564 AI452775 AI056520 AA468602 AA872566 AI434739 AA291838 AI948623 AW768614 AI374753 AW068174 AA884908 AI199346 AI199347 W94946 AI159995 AA877642 AI280646 AI307610 AA403310 R08205 AW182123 AI000999 R27808 AW026571 D20816 AI560350 T27667 AW960271 AI174628 AI432042 AI424528 AA909562 T17342 AI783866
109001	146370_3	AI056548 AW409843 AW263540 AA723669 AA909334 AA156120 AA157141 AA156125 AW409866 W19499 AA157229 AW887435

TABLE 6:

Pkey: Unique Eos probeset identifier number
ExAccn: Exemplar Accession number, Genbank accession number
UnigeneID: Unigene number
Unigene Title: Unigene gene title
AUC1: 70th percentile of average intensity (AI) for probeset at each of 2,6,15,24,48, and 96 hour timepoints minus 70th percentile AI at 0 hrs, summed over 5 experiments.
AUC2: AUC1/90th percentile of AI for aorta, aortic valve, vein, and artery.

Pkey	Ex.Accn	UnigeneID	UnigeneTitle	AUC1	AUC2
314941	AA515902	Hs.130650	ESTs	1038	9
327414			predicted exon	303.2	30.3
321911	AF026944	Hs.293797	ESTs	429.2	42.9
331578	AI246482	Hs.249989	ESTs	677.4	10.3
332466	AB018259	Hs.118140	KIAA0716 gene product	395.2	39.5
313513	AW298600	Hs.141840	ESTs, Weakly similar to S59501 interfero	324	32.4
320635	N50617	Hs.80506	small nuclear ribonucleoprotein polypept	394.8	39.5
326230			predicted exon	357.2	35.7
313556	AA628517	Hs.118502		433.6	12
313665	AW751201	Hs.120932	ESTs	-83	0.5
324852	AI380792	Hs.135104	ESTs	348.2	34.8
314372	AL040178	Hs.142003	ESTs, Weakly similar to The KIAA0149 gen	-49.2	0.5
311877	AA084248	Hs.85339	G protein-coupled receptor 39	-1309	0.2
322262	AA632012	Hs.188746	ESTs	-247.8	1
312173	AI821409	Hs.304471	ESTs, Highly similar to AF116865 1 hedge	-1025.8	1
319795	AB037821	Hs.146858	protocadherin 10	203.6	5.2
313350	AW591949	Hs.57958	ETL protein	183.8	18.4
326759			predicted exon	1654.4	1.2
300318	AW444502	Hs.256982	ESTs, Highly similar to AF116865 1 hedge	-346	1
313978	AI870175	Hs.13957	ESTs	576.6	2.3
306840	AI077477	Hs.307912	EST	56.4	0.4
310272	AF216389	Hs.148932	semaphorin Rs, short form	-127.6	0
315044	BE547674	Hs.204169	ESTs	-102.6	0
321325	AB033100	Hs.300646	KIAA protein (similar to mouse paladin)	1080.6	4.8
303251	AF240635	Hs.115897	protocadherin 12	1270.8	5.3
302378	AL109712	Hs.296506	Homo sapiens mRNA full length insert cDN	915.8	15.8
315060	AA551104	Hs.189048	ESTs, Moderately similar to ALUC_HUMAN !	1236.8	4.9
332048	AW337575	Hs.201591	ESTs	522.6	4.7
337214			predicted exon	269	26.9
311598	AW023595	Hs.232048	ESTs	796.4	20.2
304782	AA582081		gb:nn32h08.s1 NCI_CGAP_Gas1 Homo sapiens	316.4	10.5
312802	AA644669	Hs.193042	ESTs	349.6	7.6
302680	AW192334	Hs.38218	ESTs	638.6	63.9
317452	AA972965	Hs.135568	ESTs	360.8	36.1
318558	AW402677	Hs.146381	RNA binding motif protein, X chromosome	700.2	6.6
312149	T90309	Hs.269651	ESTs	274.2	7.5
319267	F11802	Hs.6818	ESTs	238.2	23.8
321510	H75391	Hs.255748	ESTs	231.8	23.2
326198			predicted exon	581.6	8.2
315730	H25899	Hs.201591	ESTs	281.6	9.7
310442	AW072215	Hs.208470	ESTs	-213	0.3
331237	W87874	Hs.25277	hypothetical protein FLJ21065	285	0.5
300469	BE301708	Hs.233955	hypothetical protein FLJ20401	26.6	0.3
338316			predicted exon	1494.2	34.7
330968	R44557	Hs.23748	ESTs	975.8	1.8
331019	NM_006033	Hs.65370	lipase, endothelial	201.2	0.9
331261	BE539976	Hs.103305	Homo sapiens mRNA; cDNA DKFZp434B0425 (f	478.6	1.3
301822	X17033	Hs.271986	integrin, alpha 2 (CD49B, alpha 2 subuni	356.2	1.7
325544			predicted exon	1014.6	9.4
328700			predicted exon	627.4	62.7
322882	AW248508	Hs.279727	Homo sapiens cDNA FLJ14035 fis, clone HE	84.8	5.7
336034			predicted exon	782.6	78.3
316580	AA938198	Hs.146123	hypothetical protein FLJ12972	746.4	13.8
309931	AW341683		gb:hd13d01.x1 Soares_NFL_T_GBC_S1 Homo s	134.8	13.5
330692	R39288	Hs.6702	ESTs	137	13.7
319962	H06350	Hs.135056	Human DNA sequence from clone RP5-850E9	14.6	0.5
338033			predicted exon	540.6	14
314943	Y00272	Hs.184572	cell division cycle 2, G1 to S and G2 to	-494.8	1
332640	BE568452	Hs.5101	protein regulator of cytokinesis 1	-600	1
338158			predicted exon	311.2	31.1
327036			predicted exon	351.8	35.2

302655	AJ227892	Hs.146274	ESTs	180.2	18
327568			predicted exon	229	22.9
324801	AW770553	Hs.14553	sterol O-acyltransferase (acyl-Coenzyme	161.2	16.1
317850	AI681545	Hs.152982	hypothetical protein FLJ13117	-690	1
322818	AW043782	Hs.293616	ESTs	126.4	4.5
324626	AI685464	Hs.292638	ESTs	170.2	17
317224	X73608	Hs.93029	sparc/osteonectin, cwcv and kazal-like d	-80	0
310955	AI476732	Hs.263912	ESTs	466.8	46.7
315240	R38772	Hs.172619	KIAA1106 protein	277	27.7
338388			predicted exon	267.6	26.8
338442			predicted exon	256	25.6
318617	AW247252	Hs.75514	nucleoside phosphorylase	1247.8	24.2
338645			predicted exon	206	20.6
313135	N58907	Hs.162430	ESTs	204.8	20.5
324716	BE169746	Hs.12504	hypothetical protein DKFZp761D081	203.6	20.4
330305			predicted exon	199.8	20
308248	AI560919		gb:tq41g10.x1 NCI_CGAP_Ut1 Homo sapiens	199.4	19.9
308886	AI833240		gb:at76d10.x1 Barstead colon HPLRB7 Homo	198.2	19.8
315622	AI796144	Hs.258188	Homo sapiens cDNA FLJ11674 fis, clone HE	191.2	19.1
323675	R43240	Hs.272168	tumor differentially expressed 1	189.2	18.9
312164	T91980	Hs.221074	ESTs	187.6	18.8
300378	Z45270	Hs.235873	hypothetical protein FLJ22672	271.6	18.7
317478	AI343569	Hs.107000	Homo sapiens mRNA for WDC146, complete c	187	18.7
317559	AW452344	Hs.129977	ESTs	184.2	18.4
317207	AI873346	Hs.214505	ESTs	182.8	18.3
334834			predicted exon	178.8	17.9
320925	D62892		gb:HUM337C07B Clontech human aorta polyA	177.2	17.7
303289	AL121460	Hs.272673	hypothetical protein FLJ20508	316.4	17.6
328548			predicted exon	174.6	17.5
317108	AA884000	Hs.8173	hypothetical protein FLJ10803	172.4	17.2
318013	AI188183	Hs.144078	ESTs	326	17.2
314299	AW382682	Hs.154840	ESTs	170.8	17.1
317702	AW173339	Hs.135665	ESTs	169.8	17
316094	AW975920	Hs.283361	ESTs	169.4	16.9
323706	AA377578	Hs.65234	hypothetical protein FLJ20596	169.2	16.9
325843			predicted exon	321.4	16.9
316012	AA764950	Hs.119898	ESTs	1047.2	16.9
309687	AW236154	Hs.77385	myosin,lightpolypeptide6,alkali,smoothmu	168.2	16.8
323329	AL134744	Hs.10852	ESTs	168	16.8
312853	W05086	Hs.114256	ESTs	167.4	16.7
313070	AI422023	Hs.161338	ESTs	298.6	16.6
314096	AW977642	Hs.291742	ESTs	165.6	16.6
338728			predicted exon	165.4	16.5
316609	AW292520	Hs.122082	ESTs	165	16.5
305989	AA888220		gb:oj15h01.s1 NCI_CGAP_Kid5 Homo sapiens	164.6	16.5
312642	AW052128		gb:wx26c02.x1 NCI_CGAP_Kid11 Homo sapien	164	16.4
339236			predicted exon	163.6	16.4
317058	AI217713	Hs.147586	ESTs	161.8	16.2
311137	AW207582	Hs.196042	ESTs	582.2	16.2
310178	AI936450	Hs.147482	ESTs	161.2	16.1
320745	H51696	Hs.89278	hypothetical protein FLJ11186	161	16.1
317336	AW014637	Hs.130212	ESTs	160	16
309871	AW300366		gb:xs63b05.x1 NCI_CGAP_Kid11 Homo sapien	159.8	16
302038	AC004076	Hs.129709	Homo sapiens chromosome 19, cosmid R3021	159	15.9
332237	N52883	Hs.102676	EST	159	15.9
312362	AW015994		gb:UI-H-BI0p-abh-g-09-0-UI.s1 NCI_CGAP_S	158.6	15.9
331558	N62401	Hs.48531	EST	158.6	15.9
316215	AI684535	Hs.200811	ESTs	158.4	15.8
336059			predicted exon	157.4	15.7
302790	AJ245245		gb:Homo sapiens mRNA for immunoglobulin	155.8	15.6
328418			predicted exon	153.8	15.4
304229	AK000149	Hs.29493	hypothetical protein FLJ20142	153.6	15.4
331606	AW273285	Hs.50802	ESTs	153	15.3
338962			predicted exon	664.4	15.3
317959	AI204202	Hs.130264	ESTs	152.6	15.3
336228			predicted exon	152.4	15.2
313534	AW072916	Hs.78743	zinc finger protein 131 (clone pHZ-10)	152.2	15.2
317404	AI806867	Hs.126594	ESTs	152.2	15.2
311943	AI469911	Hs.26498	hypothetical protein FLJ21657	152	15.2
314680	AI247425	Hs.152182	ESTs	151.4	15.1
331484	N29696	Hs.44076	EST	151.2	15.1
338116			predicted exon	151.2	15.1
329863			predicted exon	150.6	15.1
315555	AW452886	Hs.239107	ESTs	149.6	15
317039	AA868583	Hs.126153	ESTs	149.6	15
331138	R63816	Hs.28445	ESTs	149.6	15

316561	AI917222	Hs.121655	ESTs	149.4	14.9
328695			predicted exon	149.2	14.9
302282	BE396283	Hs.173987	eukaryotic translation initiation factor	148.4	14.8
318781	F11802	Hs.6818	ESTs	148.2	14.8
323709	AW297246	Hs.288546	Homo sapiens cDNA FLJ14190 fis, clone NT	148	14.8
310790	AW192063	Hs.248865	ESTs	147.8	14.8
316833	AW292614	Hs.124367	ESTs	147.8	14.8
323176	NM_007350	Hs.82101	pleckstrin homology-like domain, family	229	14.8
324188	AW274439	Hs.252709	ESTs	147.6	14.8
317441	AA922798	Hs.196583	ESTs	147.4	14.7
317584	AI825890	Hs.220513	ESTs	146.8	14.7
321798	AI308206	Hs.181959	ESTs	146.8	14.7
304363	AA206045		gb:zq77f05.s1 Stratagene hNT neuron (937	146.6	14.7
313952	F20956		gb:HSPD05390 HM3 Homo sapiens cDNA clone	146.6	14.7
301909	AI702609	Hs.15713	ESTs	263.8	14.7
309196	AI904895	Hs.9614	nucleophosmin (nucleolar phosphoprotein	146.2	14.6
321860	N47474	Hs.212631	ESTs	146.2	14.6
330187			predicted exon	146	14.6
323042	AA463571	Hs.172550	polypyrimidine tract binding protein (he	145.6	14.6
313636	AA262397	Hs.201366	ESTs	145.2	14.5
302437	AB024729	Hs.227473	UDP-N-acetylglucosamine:a-1,3-D-mannosid	145	14.5
318197	AI473096	Hs.133403	ESTs	144.8	14.5
302749	M16951		gb:Human Ig mu-chain mRNA VDJ4-region, 5	144.6	14.5
322357	AI734258	Hs.245367	ESTs, Weakly similar to ALU1_HUMAN ALU S	144.6	14.5
300391	AI927371	Hs.288839	hypothetical protein FLJ12178	144.4	14.4
326077			predicted exon	144.4	14.4
302004	Y18264	Hs.123094	sal (Drosophila)-like 1	144	14.4
320668	AA805666	Hs.146217	Homo sapiens cDNA: FLJ23077 fis, clone L	144	14.4
331212	T88693	Hs.226410	ESTs	144	14.4
311268	AI969727	Hs.231859	ESTs	143.2	14.3
305159	AA659166	Hs.275668	EST,WeaklysimilartoEF1D_HUMANELONGATIONF	143	14.3
304510	AA457391	Hs.119122	ribosomalproteinL13a	142.8	14.3
320852	AA772920	Hs.303527	ESTs	142.8	14.3
330854	AW291944	Hs.122139	ESTs	142.8	14.3
318275	AW449952	Hs.190125	basic-helix-loop-helix-PAS protein	142.6	14.3
314992	AI824879	Hs.211286	ESTs, Weakly similar to 1207289A reverse	142.2	14.2
322631	AA001697	Hs.293565	ESTs, Weakly similar to putative p150 [H	142.2	14.2
332283	R40855	Hs.100839	EST	142	14.2
302894	AA719572	Hs.274441	Homo sapiens mRNA; cDNA DKFZp434N011 (fr	141.2	14.1
301808	R35391	Hs.252831	reticulon 3	141	14.1
318608	AI204491	Hs.151502	ESTs	141	14.1
316499	AW292947	Hs.122872	ESTs	140.8	14.1
317011	AI248760	Hs.150276	ESTs	140.8	14.1
321840	N45600	Hs.46534	Homo sapiens mRNA; cDNA DKFZp434P0714 (f	140.8	14.1
327365			predicted exon	140.8	14.1
331264	AA278898	Hs.225979	hypothetical protein similar to small G	140.8	14.1
324545	AW501944	Hs.127243	Homo sapiens mRNA for KIAA1724 protein,	140.4	14
312986	AA211586		gb:zn56d05.s1 Stratagene muscle 937209 H	140.2	14
316053	AA825814	Hs.149065	ESTs	140.2	14
330723	BE247449	Hs.31082	hypothetical protein FLJ10525	140.2	14
304876	AA595765		gb:nj28g06.s1 NCI_CGAP_AA1 Homo sapiens	139.8	14
311379	AW134766	Hs.202450	ESTs	139.8	14
318265	AW019873	Hs.146840	ESTs	139.8	14
324137	AA393127	Hs.222762	ESTs	139.8	14
328262			predicted exon	139.6	14
322349	AK001279	Hs.180171	Homo sapiens cDNA FLJ10417 fis, clone NT	139.4	13.9
323504	AA280223	Hs.130865	ESTs	139.4	13.9
304261	AA059387		gb:zf66d01.s1 Soares retina N2b4HR Homo	139.2	13.9
310489	AW451493	Hs.235516	hypothetical protein PRO2955	139.2	13.9
335946			predicted exon	139.2	13.9
318155	AI041546	Hs.132133	ESTs	138.8	13.9
313796	AI797169	Hs.208486	ESTs	138.6	13.9
333977			predicted exon	138.6	13.9
324845	AW969635	Hs.283718	ESTs	138.2	13.8
331139	R65706		gb:yi16g12.s1 Soares placenta Nb2HP Homo	138.2	13.8
331131	R54797		gb:yg87b07.s1 Soares infant brain 1NIB H	669.6	13.8
321250	H58539	Hs.151692	ESTs	138	13.8
312498	AA668782	Hs.191284	ESTs, Weakly similar to ALU1_HUMAN ALU S	137.8	13.8
331252	W52470	Hs.34578	alpha2,3-sialyltransferase	137.8	13.8
337407			predicted exon	137.8	13.8
303973	AW512014		gb:xx68a03.x1 NCI_CGAP_Lym12 Homo sapien	137.4	13.7
314582	AA412258	Hs.188817	ESTs	137.4	13.7
327373			predicted exon	137.2	13.7
323367	AA234591	Hs.304123	ESTs	136.6	13.7
316207	AA832065	Hs.120260	ESTs	136.4	13.6
315231	AA705809	Hs.119922	ESTs	136.2	13.6

318592	T39310	Hs.1139	cold shock domain protein A	136.2	13.6
320906	AW969706	Hs.293332	ESTs	136.2	13.6
328937			predicted exon	136.2	13.6
329073			predicted exon	136.2	13.6
318231	AV659082	Hs.134228	ESTs	136	13.6
311992	AL360200	Hs.114145	ESTs	135.8	13.6
316497	AA766457	Hs.136849	ESTs	135.8	13.6
317677	AA968594	Hs.127868	ESTs	135.8	13.6
321680	W02848	Hs.93704	ESTs	135.8	13.6
326080			predicted exon	135.8	13.6
330938	AF036943	Hs.172619	KIAA1106 protein	135.8	13.6
306573	AL134878	Hs.119500	ribosomal protein, large P2	135.6	13.6
307383	AI223207	Hs.147888	EST	135.6	13.6
311114	AW449382	Hs.195297	ESTs	135.6	13.6
320579	R15138	Hs.165570	Homo sapiens clone 25052 mRNA sequence	135	13.5
301328	AA884104	Hs.125546	ESTs	134.8	13.5
312063	N58198	Hs.182898	ESTs	134.8	13.5
323036	H09604	Hs.13268	ESTs	134.6	13.5
332776	AF241850	Hs.151428	ret finger protein 2	134.4	13.4
332494	AA282330	Hs.145668	ESTs	134.2	13.4
334376			predicted exon	134.2	13.4
313264	N93416	Hs.118228	ESTs	133.6	13.4
313669	AA351109	Hs.5437	Tax1 (human T-cell leukemia virus type I	133.2	13.3
312083	T87398	Hs.205816	ESTs	132.6	13.3
319354	AA993807	Hs.167367	ESTs	132.6	13.3
307414	AI242106		gb:qh92a02.x1 Soares_NFL_T_GBC_S1 Homo s		132.2 13.2
312771	AA018515	Hs.264482	Apg12 (autophagy 12, S. cerevisiae)-like	131.8	13.2
313004	AI274963	Hs.145900	ESTs	131.2	13.1
300995	AW510641	Hs.258018	ESTs	220.6	13
319323	F12650	Hs.13287	ESTs	125.4	12.5
329451			predicted exon	123.4	12.3
337603			predicted exon	572	12.2
312480	R68651	Hs.144997	ESTs	121.4	12.1
324934	AW452051	Hs.147546	ESTs	119.4	11.9
320723	BE178025	Hs.7942	hypothetical protein FLJ20080	117	11.7
318188	AI792566		gb:qi74f02.y5 NCI_CGAP_Ov26 Homo sapiens		116.6 11.7
320873	AF238869	Hs.283955	Homo sapiens clone GLSH-2 similar to gli	112.8	11.3
331005	BE003191	Hs.119555	ESTs	112.6	11.3
304969	AA614406		gb:np46f05.s1 NCI_CGAP_Br11 Homo sapiens		112.4 11.2
319799	AI139253	Hs.227767	zinc finger protein 41	111.2	11.1
302610	AA347945	Hs.256024	ESTs	111	11.1
309485	AW130320	Hs.108124	ribosomalproteinS4,X-linked	111	11.1
311880	AW419225	Hs.256247	ESTs	110.2	11
313981	AW452334	Hs.128148	ESTs	110.2	11
322442	W49701	Hs.29667	ESTs	109.4	10.9
315099	AA806536	Hs.291841	ESTs	109	10.9
304793	AA583264	Hs.182979	ribosomalproteinL12	108.8	10.9
330815	AA019211	Hs.236463	KIAA1238 protein	108.8	10.9
304044	T81656	Hs.252259	ribosomal protein S3	714.8	10.8
325222			predicted exon	135	10.8
325889			predicted exon	814.6	10.8
321447	AW891130	Hs.38173	ESTs	107.8	10.8
302990	AA496212	Hs.180182	ESTs	106.2	10.6
308106	AI476803		gb:tj77e12.x1 Soares_NSF_F8_9W_OT_PA_P_S		270.6 10.6
310536	AI301041	Hs.150174	ESTs	106	10.6
315257	AW157431	Hs.248941	ESTs	233	10.6
318787	Z42313	Hs.22657	ESTs	105.8	10.6
312306	AI927226	Hs.175610	ESTs	105.2	10.5
326788			predicted exon	104.4	10.4
312234	AA830640	Hs.206934	ESTs	104	10.4
314482	AW085525	Hs.134182	ESTs	234	10.4
323597	AI185693	Hs.135119	ESTs	102.4	10.2
302623	AW836724	Hs.194110	hypothetical protein PRO2730	162.4	10.2
323594	AI791531	Hs.129993	ESTs	101	10.1
324315	N55761	Hs.194718	zinc finger protein 265	100.2	10
314217	AA256465	Hs.188725	ESTs	99.2	9.9
320932	AA554913	Hs.162297	ESTs	98.2	9.8
327876			predicted exon	98.2	9.8
319736	R17424	Hs.6650	vacuolar protein sorting 45B (yeast homo	98	9.8
327747			predicted exon	97.6	9.8
327844			predicted exon	97.4	9.7
318200	AI061192	Hs.166517	ESTs	97.2	9.7
329414			predicted exon	97.2	9.7
318296	AI089667	Hs.270713	ESTs	121.4	9.7
307010	AI140014		gb:qa68f09.x1 Soares_fetal_heart_NbHH19W	295	9.7
319792	AI138635	Hs.22968	ESTs	385.4	9.6

305671	AA811688	Hs.82113	dUTPpyrophosphatase	96	9.6
329440			predicted exon	93.8	9.4
310381	AI263059	Hs.145594	ESTs	93.4	9.3
318824	F06771	Hs.27226	ESTs	93.4	9.3
328957			predicted exon	92.2	9.2
318804	Z42549	Hs.160893	ESTs	92	9.2
330836	AA055611	Hs.226568	ESTs, Moderately similar to ALU4_HUMAN A	92	9.2
324592	AW752437	Hs.325708	ESTs	91.8	9.2
311820	AW274545	Hs.254333	ESTs	91.4	9.1
321614	H86161		gb:ys94b01.r1 Soares retina N2b5HR Homo	91	9.1
330306			predicted exon	91	9.1
303096	AL080276	Hs.268562	regulator of G-protein signalling 17	90	9
313275	AI027604	Hs.159650	ESTs	110.4	8.8
302593	H54855	Hs.36958	ESTs	88	8.8
321421	BE465115	Hs.171688	ESTs	86.2	8.6
330832	AI133530	Hs.62930	ESTs	456.4	8.6
311847	AW301807	Hs.297260	ESTs	86	8.6
322036	BE002723	Hs.301905	Homo sapiens cDNA FLJ14080 fis, clone HE	145.8	8.6
328688			predicted exon	85.6	8.6
325251			predicted exon	85.4	8.5
329088			predicted exon	85.4	8.5
322524	W79027	Hs.271762	ESTs	84	8.4
337953			predicted exon	451	8.3
323529	AA284397	Hs.201485	Homo sapiens clone FLC0664 PRO2866 mRNA,	82.6	8.3
307041	AI144243		gb:qb85b12.x1 Soares_fetal_heart_NbHH19W	306.8	8.2
318285	AI332454	Hs.158412	ESTs	81.4	8.1
312021	AA759263	Hs.14041	ESTs	81	8.1
329350			predicted exon	81	8.1
326169			predicted exon	80.4	8
338038			predicted exon	1024.2	7.9
312549	AI214510	Hs.146304	ESTs	77.4	7.7
312542	D60076		gb:HUM084E10A Clontech human fetal brain	76.8	7.7
320992	AB026891	Hs.225972	solute carrier family 7, (cationic amino	76	7.6
318596	AI470235	Hs.172698	EST	150.6	7.5
315650	AA649042	Hs.269615	ESTs	73.4	7.3
324328	AA447276	Hs.292020	ESTs	210.4	7.1
332622	R10674	Hs.128856	CSR1 protein	70.2	7
328229			predicted exon	69.4	6.9
319110	T75260	Hs.98321	hypothetical protein FLJ14103	68.6	6.9
316133	AI187742	Hs.125562	ESTs	308.6	6.9
303992	AW515800		gb:hd88g01.x1 NCI_CGAP_GC6 Homo sapiens	67.8	6.8
322675	AA017656	Hs.146580	enolase 2, (*gamma, neuronal*)	377.2	6.7
325753			predicted exon	105.2	6.6
312539	AI004377	Hs.200360	Homo sapiens cDNA FLJ13027 fis, clone NT	92.2	6.4
302592	AA294921	Hs.250811	v-ral simian leukemia viral oncogene hom	361.6	6.3
314578	AA410183	Hs.137475	ESTs	201.6	6.1
335986			predicted exon	108.6	6
321478	AW402593	Hs.123253	hypothetical protein FLJ22009	528	6
305192	AA666019		gb:ag44a04.s1 Jia bone marrow stroma Hom	58.6	5.9
304275	AA070605		gb:zm53h09.s1 Stratagene fibroblast (937	78.6	5.6
302779	AJ235667		gb:Homo sapiens mRNA for immunoglobulin	278.8	5.5
301976	T97905	Hs.77256	enhancer of zeste (Drosophila) homolog 2	479.2	5.4
316021	AW293399	Hs.144904	nuclear receptor co-repressor 1	792.4	5.3
320802	BE336699	Hs.185055	BENE protein	2423.8	5.3
317282	AI733112	Hs.176101	ESTs	523.2	5.1
316827	AI380429	Hs.172445	ESTs	578	5.1
303190	BE280787	Hs.16079	hypothetical protein FLJ10233	223	5.1
315587	AI268399	Hs.140489	ESTs	136.2	5
333122			predicted exon	399	5
310214	AI220072	Hs.165893	ESTs	234.4	4.9
320089	D43945	Hs.113274	transcription factor EC	68	4.9
309328	AW024348	Hs.233191	EST, Weakly similar to A27217 glucose tr	258.8	4.8
318971	Z44067	Hs.10957	ESTs	376.6	4.8
327220			predicted exon	47.4	4.7
315757	AW014605	Hs.179872	ESTs	177.4	4.7
320730	R68869	Hs.151072	ESTs	205.2	4.6
313339	AI682536	Hs.163495	Homo sapiens cDNA FLJ13608 fis, clone PL	260	4.5
318634	T49598	Hs.156832	ESTs	475.2	4.5
320955	AW820035	Hs.278679	a disintegrin and metalloproteinase doma	388.6	4.4
306605	AI000497	Hs.119500	ribosomalprotein,largeP2	81.6	4.4
309349	AW051913		gb:wx24a09.x1 NCI_CGAP_Kid11 Homo sapien	102.4	4.3
306004	AA889992	Hs.2186	eukaryotictranslationelongationfactor1ga	451.2	4.2
330020			predicted exon	61.2	4.1
302308	AW327279	Hs.91379	ribosomal protein L26	342	3.9
314648	AW979268		gb:EST391378 MAGE resequences, MAGP Homo	56.4	3.8
315131	AI753709	Hs.152484	ESTs	130.4	3.7

313690	AI493591	Hs.78146	platelet/endothelial cell adhesion molec	3179.6	3.6
333585			predicted exon	175.4	3.5
312911	H93366	Hs.7567	Homo sapiens cDNA: FLJ21962 fis, clone H	219	3.5
322966	AA633669	Hs.235920	Homo sapiens cell recognition molecule C	350.2	3.4
312492	R71072	Hs.191269	ESTs	322.8	3
318988	Z44203	Hs.26418	ESTs	25	2.5
332363	AI123705	Hs.106932	ESTs	773.4	2.5
324181	AI025476	Hs.131628	ESTs	634.8	2.4
311717	AW205369	Hs.312830	ESTs	54.2	2.4
321342	AA127984	Hs.222024	transcription factor BMAL2	23.4	2.3
308852	AI829848	Hs.182937	peptidylprolylisomeraseA(cyclophilinA)	92	2.3
331466	AA373210	Hs.43047	Homo sapiens cDNA FLJ13585 fis, clone PL	494	2.3
320279	AB033062	Hs.134970	DKFZP434N178 protein	76.2	2.2
322221	N24236	Hs.179662	nucleosome assembly protein 1-like 1	253.2	2.1
302925	AL137449	Hs.126666	homeo box B4	136.6	2.1
331384	AB041035	Hs.93847	NADPH oxidase 4	720	1.8
300938	AA514416	Hs.152320	ESTs, Weakly similar to 1605244A erythro	27	1.8
312695	AW196663	Hs.200242	ESTs	303.8	1.6
320223	W35132	Hs.267442	ESTs	189	1.5
332743	AW247977	Hs.87595	translocase of inner mitochondrial membr	14.4	1.4
331039	AW378685	Hs.18625	Mitochondrial Acyl-CoA Thioesterase	529.8	1.4
333123			predicted exon	396.2	1.4
328455			predicted exon	91.8	1.3
334458			predicted exon	406.4	1.3
313478	AA643008	Hs.192775	ESTs	413.4	1.1
309899	AW338564	Hs.217493	annexinA2	-30.8	1
311735	AW294416	Hs.144687	Homo sapiens cDNA FLJ12981 fis, clone NT	-62.8	1
312953	NM_001992	Hs.128087	coagulation factor II (thrombin) recepto	-73.6	1
313055	AW367295	Hs.241175	ESTs	-43.8	1
313291	AI267970	Hs.150614	ESTs, Weakly similar to ALU4_HUMAN ALU S	-63	1
315059	AW275110	Hs.271106	ESTs	-67	1
322284	AI792140	Hs.49265	ESTs	-395.2	1
322450	AL121278	Hs.25144	ESTs	-1.6	1
324803	AW975183	Hs.292663	ESTs	4.4	1
331495	AW970939	Hs.291039	ESTs	-282.8	1
333610			predicted exon	-152.6	1
335093			predicted exon	-23.2	1
339403			predicted exon	-331.2	1
302820	X04588	Hs.85844	neurotrophic tyrosine kinase, receptor,	591.2	1
302270	R56151	Hs.93589	Homo sapiens mRNA; cDNA DKFZp564B1162 (f	276.6	1
323755	AW300094	Hs.136252	ESTs	135	0.9
326946			predicted exon	727.4	0.9
315343	BE144306	Hs.179891	ESTs, Weakly similar to P4HA_HUMAN PROLY	122.8	0.9
311168	AK001270	Hs.196086	hypothetical protein FLJ10408	304	0.9
329732			predicted exon	109.2	0.9
321415	BE621807	Hs.3337	transmembrane 4 superfamily member 1	414.8	0.7
333121			predicted exon	87.8	0.7
333120			predicted exon	379.8	0.7
330392	AW797956	Hs.75748	proteasome (prosome, macropain) subunit,	589.2	0.7
314711	AA769365	Hs.126058	ESTs	-87	0.6
330865	BE409857	Hs.69499	hypothetical protein	347.4	0.6
333169			predicted exon	-1182	0.6
335095			predicted exon	106.4	0.6
335815			predicted exon	-156	0.6
330232			predicted exon	102.6	0.6
330823	AA031565	Hs.221255	ESTs, Moderately similar to ALU5_HUMAN A	-62	0.5
331704	F04225	Hs.66032	ESTs	-14.6	0.5
302642	NM_016428	Hs.130719	NESH protein	267.6	0.5
304484	AA432067	Hs.258373	ESTs	85	0.5
310230	AK000377	Hs.144840	homolog of mouse C2PA	-70	0.4
301531	AI077462	Hs.134084	ESTs	-195.4	0.4
306337	AA954221	Hs.73742	ribosomalprotein,large,P0	-33.4	0.4
331327	N46436	Hs.109221	ESTs	-392	0.4
332961			predicted exon	-5.6	0.4
322796	W31178	Hs.154140	Homo sapiens ovary-specific acidic prote	-880.6	0.3
328857			predicted exon	55.2	0.3
316342	AA743935	Hs.202329	ESTs	43.4	0.3
331263	AW780192	Hs.267596	ESTs	-180.4	0.3
335987			predicted exon	-134	0.3
311923	T60843	Hs.189679	ESTs	12.2	0.3
310522	AW134529	Hs.244647	ESTs	-187.8	0.3
315363	AA759190	Hs.121454	ESTs, Weakly similar to olfactory recept	80	0.3
302032	NM_001992	Hs.128087	coagulation factor II (thrombin) recepto	-877	0.3
313140	BE265133	Hs.217493	annexin A2	95.4	0.3
310860	AW015920	Hs.161359	ESTs	-239	0.3
317899	AI952430	Hs.150614	ESTs, Weakly similar to ALU4_HUMAN ALU S	-715.2	0.3

328520			predicted exon	-109.2	0.2
302406	NM_012099	Hs.211956	CD3-epsilon-associated protein; antisens	10	0.2
311804	AI866921	Hs.203349	Homo sapiens cDNA FLJ12149 fis, clone MA	-252.6	0.2
315065	AK001122	Hs.105859	hypothetical protein FLJ10260	-46.2	0.2
314129	AA228366	Hs.115122	ESTs	-308.8	0.2
335697			predicted exon	-47.2	0.2
335989			predicted exon	89	0.2
320606	AW867943	Hs.127216	hypothetical protein FLJ13465	-205.6	0.2
329745			predicted exon	103	0.2
313628	AW419069	Hs.209670	ESTs	-177.8	0.2
334616			predicted exon	-936.6	0.2
308820	AI821267	Hs.207243	EST	-7.2	0.2
320416	AI026984	Hs.293662	ESTs	-18.4	0.2
335211			predicted exon	-142	0.2
323629	AA375957	Hs.6682	ESTs	-100	0.1
331420	AW452904		gb:UI-H-BI3-aly-h-11-0-UI.s1 NCI_CGAP_Su	83	0.1
315984	AI015862	Hs.131793	ESTs	-250.6	0.1
332833			predicted exon	-374.2	0.1
332607	NM_002314	Hs.36566	LIM domain kinase 1	-27.6	0.1
313467	AA004879	Hs.187820	ESTs	-288.2	0.1
323333	AV651680	Hs.208558	ESTs	-735.6	0.1
330775	AW247020	Hs.250747	SUMO-1 activating enzyme subunit 1	53.6	0.1
333168			predicted exon	-1041.8	0.1
332079	AI308876	Hs.103849	ESTs	19.4	0.1
322724	AF161442	Hs.191591	Homo sapiens HSPC324 mRNA, partial cds	-123.6	0.1
303652	AI799111	Hs.64341	ESTs	-46.4	0.1
303131	AW081061	Hs.103180	DC2 protein	-156.4	0.1
320716	AI479439	Hs.171532	ESTs	-146.6	0.1
300454	AA659037	Hs.163780	ESTs	-304	0.1
312757	AI285970	Hs.183817	ESTs	-445	0.1
312391	R43707	Hs.133159	ESTs, Weakly similar to PIHUSD salivary	-111.8	0.1
308877	AI832519		gb:at69h03.x1 Barstead colon HPLRB7 Homo	-149.6	0
311275	AI659166	Hs.207144	ESTs	-62.6	0
302363	AW163799	Hs.198365	2,3-bisphosphoglycerate mutase	-15	0
321717	AW956580	Hs.42699	ESTs	-1059.6	0
302638	AA463798	Hs.102696	MCT-1 protein	-332.2	0
306352	AA961367		gb:or52a05.s1 NCI_CGAP_GC3 Homo sapiens	21.8	0
313798	AI292148	Hs.71622	SWI/SNF related, matrix associated, acti	-97.2	0
320807	AA135370	Hs.188536	Homo sapiens cDNA: FLJ21635 fis, clone C	-2222	0
320931	AW262836	Hs.252844	ESTs	-881.6	0
332450	AW288085	Hs.11156	hypothetical protein	28.4	0
332535	AF167706	Hs.19280	*cysteine-rich motor neuron 1*	-722	0
335990			predicted exon	-421	0
330746	AB033888	Hs.8619	SRY (sex determining region Y)-box 18	35.4	0
316820	AI627912	Hs.130783	Forssman synthetase	-373.6	0
337429			predicted exon	-257	0
331192	BE622021	Hs.152571	ESTs, Highly similar to IGF-II mRNA-bind	-33	0
330609	AI346201	Hs.76118	ubiquitin carboxyl-terminal esterase L1	-280	0
323593	AI739435	Hs.39168	ESTs	-3627.6	0
302704	AA531133	Hs.4253	hypothetical protein MGC2574	-278.6	0
330534	NM_004579	Hs.82979	mitogen-activating protein kinase kinase	-244	0
332374	X91195	Hs.100623	phospholipase C, beta 3, neighbor pseudo	-1204.2	0
333221			predicted exon	-189.6	0
335988			predicted exon	-122.6	0
330574	AI984144	Hs.66713	hepatitis delta antigen-interacting prot	-2257.4	0
312052	BE621697	Hs.14317	nucleolar protein family A, member 3 (H/	-359.2	0
319568	AF131781	Hs.84753	hypothetical protein FLJ12442	-874.6	0
337113			predicted exon	-24.6	0
335149			predicted exon	-191.8	0

TABLE 6A

Table 6A shows the accession numbers for those pkeys lacking unigeneID's for Table 6. The pkeys in Table 7 lacking unigeneID's are represented within Tables 1-6A. For each probeset we have listed the gene cluster number from which the oligonucleotides were designed. Gene clusters were compiled using sequences derived from Genbank ESTs and mRNAs. These sequences were clustered based on sequence similarity using Clustering and Alignment Tools (DoubleTwist, Oakland California). The Genbank accession numbers for sequences comprising each cluster are listed in the "Accession" column.

Pkey:	Unique Eos probeset identifier number
CAT number:	Gene cluster number
Accession:	Genbank accession numbers

Pkey	CAT Number	Accession
320925	1525201_1	D62892 D79755 D62760
321614	87866_1	H86161 AA054308 AA018955
313952	136885_1	F20956 AA129374 AA133740 AW819878
314648	293660_1	AW979268 AA878419 AA431342 AA431628
302749	458_107	M16951 M16952 M16948 M16949 M16950
312362	764066_1	AW015994 R39898 AW000978 AI598202 AI521706
312542	1522649_1	D60076 D60259 D61037
312642	1005225_1	AW052128 H51439 H51481
312986	171879_1	AA211586 F35799 AA211641 F29720 AW937387 AW937408
329350	c_x_hs	
329414	c_y_hs	
329440	c_y_hs	
329451	c_y_hs	
338033	CH22_6528FG__LINK_EM:AC00	
338038	CH22_6535FG__LINK_EM:AC00	
338116	CH22_6650FG__LINK_EM:AC00	
338158	CH22_6700FG__LINK_EM:AC00	
329732	c14_p2	
329745	c14_p2	
308106	AI476803	
329863	c14_p2	
338316	CH22_6944FG__LINK_EM:AC00	
308248	AI560919	
338388	CH22_7034FG__LINK_EM:AC00	
338442	CH22_7109FG__LINK_EM:AC00	
338645	CH22_7410FG__LINK_EM:AC00	
338728	CH22_7527FG__LINK_EM:AC00	
308877	AI832519	
338962	CH22_7838FG__LINK_DJ32I10	
308886	AI833240	
333120	CH22_349FG_81_3_LINK_EM:A	
333121	CH22_350FG_81_4_LINK_EM:A	
333122	CH22_351FG_81_6_LINK_EM:A	
333123	CH22_352FG_81_7_LINK_EM:A	
333168	CH22_400FG_94_1_LINK_EM:A	
333169	CH22_401FG_94_2_LINK_EM:A	
333221	CH22_458FG_105_1_LINK_EM:	
326077	c17_hs	
326080	c17_hs	
326169	c17_hs	
326198	c17_hs	
326230	c17_hs	
333585	CH22_846FG_203_4_LINK_EM:	
333610	CH22_871FG_217_5_LINK_EM:	
335093	CH22_2423FG_492_3_LINK_EM	
335095	CH22_2425FG_492_5_LINK_EM	
335149	CH22_2484FG_499_5_LINK_EM	
326759	c20_hs	
333977	CH22_1254FG_309_6_LINK_EM	
326788	c20_hs	
335211	CH22_2550FG_511_2_LINK_EM	
305192	AA666019	
303973	AW512014	
303992	AW515800	
326946	c21_hs	
328229	c_6_hs	
328262	c_6_hs	

328418	c_7_hs	
328455	c_7_hs	
335697	CH22_3058FG_596_12_LINK_E	
328520	c_7_hs	
328548	c_7_hs	
335815	CH22_3187FG_618_3_LINK_EM	
328688	c_7_hs	
328695	c_7_hs	
307010	AI140014	
337113	CH22_5058FG_493_1_	
307041	AI144243	
328700	c_7_hs	
335946	CH22_3324FG_646_20_LINK_D	
335986	CH22_3366FG_654_10_LINK_D	
335987	CH22_3367FG_654_11_LINK_D	
335988	CH22_3368FG_654_12_LINK_D	
335989	CH22_3369FG_655_2_LINK_DJ	
335990	CH22_3370FG_655_4_LINK_DJ	
337214	CH22_5288FG_613_7_	
330020	c16_p2	
305989	AA888220	
328857	c_7_hs	
328937	c_8_hs	
328957	c_8_hs	
330187	c_4_p2	
337407	CH22_5607FG_755_1_	
337429	CH22_5633FG_762_3_	
330232	c_5_p2	
307414	AI242106	
330305	c_7_p2	
330306	c_7_p2	
337603	CH22_5896FG__LINK_C20H12.	
337953	CH22_6395FG__LINK_EM:AC00	
339236	CH22_8181FG__LINK_BA354I1	
339403	CH22_8384FG__LINK_BA232E1	
309349	AW051913	
325222	c10_hs	
325251	c10_hs	
318188	956161_1	AI792566 AI053836 AI054127 AI792489 AI288324
309871	AW300366	
325544	c12_hs	
309931	AW341683	
332833	CH22_50FG_17_7_LINK_C20H1	
302779	33837_1	AJ235667 AJ235666 AJ235664 AJ235665 AJ235668 AJ235669 AJ235670
302790	34168_1	AJ245245 AJ245247 AJ245257 AJ245248 AJ245254 AJ245256 AJ245253 AJ245203 AJ245250 AJ245252 AJ245243 AJ245204 AJ245201 AJ245206 AJ245246 AJ245255 AJ245205 AJ245202 AJ245251 AJ245249 AJ245207 AJ245244
332961	CH22_185FG_48_18_LINK_EM:	
325753	c14_hs	
327036	c21_hs	
325843	c16_hs	
325889	c16_hs	
304261	AA059387	
304275	AA070605	
334376	CH22_1670FG_379_8_LINK_EM	
327220	c_1_hs	
304363	AA206045	
334458	CH22_1757FG_391_2_LINK_EM	
327365	c_1_hs	
327373	c_2_hs	
334616	CH22_1923FG_411_15_LINK_E	
327414	c_2_hs	
327568	c_3_hs	
336034	CH22_3419FG_678_5_LINK_DJ	
336059	CH22_3445FG_684_2_LINK_DJ	
334834	CH22_2148FG_439_3_LINK_EM	
304782	AA582081	
304876	AA595765	
327747	c_5_hs	
336228	CH22_3626FG_730_4_LINK_DA	
329073	c_x_hs	
329088	c_x_hs	
304969	AA614406	
327844	c_5_hs	
327876	c_6_hs	
306352	AA961367	
331131	genbank_R54797	R54797

331139	genbank_R65706	R65706
331420	675963_1	AW452904 AW449414 BE467906 AI298565 BE549932 BE326357 F04362

TABLE 6B

Table 6B shows the genomic positioning for those pkeys lacking unigene ID's and accession numbers in Table 6. The pkeys in Table 7 lacking unigeneID's are represented within Tables 1-6B. For each predicted exon, we have listed the genomic sequence source used for prediction. Nucleotide locations of each predicted exon are also listed.

Pkey:	Unique number corresponding to an Eos probeset
Ref:	Sequence source. The 7 digit numbers in this column are Genbank Identifier (GI) numbers. "Dunham I. et al." refers to the publication entitled "The DNA sequence of human chromosome 22." Dunham I. et al., Nature (1999) 402:489-495.
Strand:	Indicates DNA strand from which exons were predicted.
Nt_position:	Indicates nucleotide positions of predicted exons.

Pkey	Ref	Strand	Nt_position
332961	Dunham, I. et.al.	Plus	2521424-2521555
333221	Dunham, I. et.al.	Plus	3978070-3978187
333585	Dunham, I. et.al.	Plus	6234778-6234894
333610	Dunham, I. et.al.	Plus	6547007-6547116
334376	Dunham, I. et.al.	Plus	13902218-13902331
334458	Dunham, I. et.al.	Plus	14353496-14353572
334616	Dunham, I. et.al.	Plus	15176123-15176470
335149	Dunham, I. et.al.	Plus	21497441-21497587
335211	Dunham, I. et.al.	Plus	21774611-21774680
335697	Dunham, I. et.al.	Plus	25481456-25481649
335986	Dunham, I. et.al.	Plus	27967791-27967852
335987	Dunham, I. et.al.	Plus	27971413-27971481
335988	Dunham, I. et.al.	Plus	27977912-27978013
335989	Dunham, I. et.al.	Plus	27983788-27983860
335990	Dunham, I. et.al.	Plus	27988532-27988608
336034	Dunham, I. et.al.	Plus	29014404-29014590
337953	Dunham, I. et.al.	Plus	6827029-6827125
338033	Dunham, I. et.al.	Plus	8092128-8092271
338038	Dunham, I. et.al.	Plus	8138219-8138392
338316	Dunham, I. et.al.	Plus	17089711-17089988
338442	Dunham, I. et.al.	Plus	19980640-19980698
338962	Dunham, I. et.al.	Plus	29581892-29582020
332833	Dunham, I. et.al.	Minus	1119848-1119705
333120	Dunham, I. et.al.	Minus	3307508-3307427
333121	Dunham, I. et.al.	Minus	3308446-3308358
333122	Dunham, I. et.al.	Minus	3309596-3309531
333123	Dunham, I. et.al.	Minus	3310817-3310749
333168	Dunham, I. et.al.	Minus	3729896-3729788
333169	Dunham, I. et.al.	Minus	3730864-3730767
333977	Dunham, I. et.al.	Minus	8722928-8722725
334834	Dunham, I. et.al.	Minus	17182681-17182535
335093	Dunham, I. et.al.	Minus	21297367-21297214
335095	Dunham, I. et.al.	Minus	21292546-21292381
335815	Dunham, I. et.al.	Minus	26320518-26320421
335946	Dunham, I. et.al.	Minus	27487203-27487035
336059	Dunham, I. et.al.	Minus	29184079-29183969
336228	Dunham, I. et.al.	Minus	30904602-30904497
337113	Dunham, I. et.al.	Minus	21233344-21233237
337214	Dunham, I. et.al.	Minus	26095902-26095502
337407	Dunham, I. et.al.	Minus	31886652-31886567
337429	Dunham, I. et.al.	Minus	32086238-32086079
337603	Dunham, I. et.al.	Minus	1299296-1299194
338116	Dunham, I. et.al.	Minus	10614071-10613814
338158	Dunham, I. et.al.	Minus	11794465-11794343
338388	Dunham, I. et.al.	Minus	18662403-18662305
338645	Dunham, I. et.al.	Minus	24063839-24063775
338728	Dunham, I. et.al.	Minus	25949039-25948927
339236	Dunham, I. et.al.	Minus	32773355-32773202
339403	Dunham, I. et.al.	Minus	34050728-34050625
325222	6525287	Minus	22332-22473
325251	6682448	Minus	411693-411751
325544	6682452	Plus	171228-171286
325753	6682474	Plus	398512-398621
329745	6065779	Plus	174774-175142
329732	6065783	Plus	161252-161322
329863	6691797	Plus	196801-196971
325889	5867087	Plus	223829-223891

325843	6552453	Minus	7126-7232
330020	6671887	Plus	172397-172491
326198	5867215	Minus	80295-80674
326230	5867230	Minus	301868-301972
326169	5867255	Minus	128321-128388
326077	6682495	Minus	312108-312168
326080	6682495	Plus	478644-478847
326759	6249610	Plus	97216-97311
326788	6682503	Plus	277132-277335
326946	6004446	Minus	116677-116967
327036	6531965	Plus	319951-320040
327220	5867525	Minus	65701-65781
327365	6552412	Minus	118133-118198
327414	5867750	Plus	102461-102586
327373	5867792	Minus	8186-8742
327568	5867811	Minus	46152-46287
330187	6706138	Plus	212923-213020
327747	5867947	Plus	115322-115498
327844	6249582	Minus	18895-18958
330232	6013526	Plus	113655-113830
328229	5868105	Minus	120936-121053
327876	5868140	Plus	103882-104034
328262	6381906	Plus	11867-12027
328688	5868262	Plus	626030-626094
328700	5868264	Plus	764089-764203
328695	5868264	Plus	318632-318695
328418	5868409	Minus	258811-258894
328455	5868431	Plus	385576-385633
328520	5868477	Plus	1942075-1942246
328548	5868487	Plus	72301-72397
328857	6381927	Minus	80557-81051
330305	4877982	Minus	52269-52365
330306	4877982	Plus	96161-96233
328937	5868500	Minus	1448241-1448333
328957	6456773	Plus	219195-219297
329073	5868596	Plus	37838-37956
329088	5868608	Plus	116738-116950
329350	6456785	Plus	98911-98969
329414	5868874	Plus	942555-942643
329440	5868885	Plus	21943-22063
329451	5868887	Plus	25974-26048

TABLE 7:

Table 7 depicts Seq ID No., UnigeneID, UnigeneTitle, Pkey, and ExAccn for all of the sequences in Table 8. Seq ID No links the nucleic acid and protein sequence information inTable 8 to Table 7.

Pkey: Unique Eos probeset identifier number
ExAccn: Exemplar Accession number, Genbank accession number
UnigeneID: Unigene number
Unigene Title: Unigene gene title
Seq.ID.No.: Sequence Identification Number found in Table 8

PKey	ExAccn	Unigene ID	Unigene Tiltle	SEQ ID NO
101545	BE246154	Hs.154210	endothelial differentiation, sphingolipl	Seq ID 1 & 2
115819	AA486620	Hs.41135	endomucin-2	Seq ID 3 & 4
424503	NM_002205	Hs.149609	integrin, alpha 5 (fibronectin receptor,	Seq ID 5 & 6
102917	AI016712	Hs.287797	integrin, beta 1 (fibronectin receptor,	Seq ID 7 & 8
102915	X07820	Hs.2258	matrix metalloproteinase 10 (stromelysin	Seq ID 9 & 10
105330	AW338625	Hs.22120	ESTs	Seq ID 11 & 12
107385	NM_005397	Hs.16426	podocalyxin-like	Seq ID 13 & 14
102024	AA301867	Hs.76224	EGF-containing fibulin-like extracellula	Seq ID 15 & 16
102024	AA301867	Hs.76224	EGF-containing fibulin-like extracellula	Seq ID 17 & 18
134416	X68264	Hs.211579	melanoma cell adhesion molecule	Seq ID 19 & 20
103036	M13509	Hs.83169	matrix metalloproteinase 1 (interstitial	Seq ID 21 & 22
104865	T79340	Hs.22575	B-cell CLL/lymphoma 6, member B (zinc fi	Seq ID 23 & 24
106124	H93366	Hs.7567	Homo sapiens cDNA: FLJ21962 fis, clone H	Seq ID 25 & 26
109001	AI056548	Hs.72116	hypothetical protein FLJ20992 similar to	Seq ID 27 & 28
104764	AI039243	Hs.278585	ESTs	Seq ID 29 & 30
133200	AB037715	Hs.183639	hypothetical protein FLJ10210	Seq ID 31 & 32
105263	AW388633	Hs.6682	solute carrier family 7, (cationic amino	Seq ID 33 & 34
102892	BE440042	Hs.83326	matrix metalloproteinase 3 (stromelysin	Seq ID 35 & 36
109456	AW956580	Hs.42699	ESTs	Seq ID 37 & 38
110906	AA035211	Hs.17404	ESTs	Seq ID 39 & 40
119073	BE245360	Hs.279477	ESTs	Seq ID 41 & 42
132050	AI267615	Hs.38022	ESTs	Seq ID 43 & 44
132490	NM_001290	Hs.4980	LIM domain binding 2	Seq ID 45 & 46
102283	AW161552	Hs.83381	guanine nucleotide binding protein 11	Seq ID 47 & 48
101714	M68874	Hs.211587	phospholipase A2, group IVA (cytosolic,	Seq ID 49 & 50
133975	C18356	Hs.295944	tissue factor pathway inhibitor 2	Seq ID 51 & 52
106793	H94997	Hs.16450	ESTs	Seq ID 53 & 54
118511	N75620	Hs.43157	ESTs	Seq ID 54 & 55
101447	M21305		gb:Human alpha satellite and satellite 3	Seq ID 56 & 57
314941	AA515902	Hs.130650	ESTs	Seq ID 58 & 59
332466	AB018259	Hs.118140	KIAA0716 gene product	Seq ID 60 & 61
313513	AW298600	Hs.141840	ESTs, Weakly similar to S59501 interfero	Seq ID 62 & 63
313556	AA628517	Hs.118502	ESTs	Seq ID 64 & 65
313665	AW751201	Hs.51233	ESTs	Seq ID 66 & 67
314372	AL040178	Hs.142003	ESTs	Seq ID 68 & 69
429276	AF056085	Hs.198612	G protein-coupled receptor 51	Seq ID 70 & 71
101345	NM_005795	Hs.152175	calcitonin receptor-like	Seq ID 72 & 73
418994	AA296520	Hs.89546	selectin E (endothelial adhesion molecul	Seq ID 74 & 75
103850	AA187101	Hs.213194	hypothetical protein MGC10895	Seq ID 76 & 77
133260	AA403045	Hs.6906	Homo sapiens cDNA: FLJ23197 fis, clone R	Seq ID 78 & 79
101097	BE245301	Hs.89414	chemokine (C-X-C motif), receptor 4 (fus	Seq ID 80 & 81
104786	AA027167	Hs.10031	KIAA0955 protein	Seq ID 82 & 83
132173	X89426	Hs.41716	endothelial cell-specific molecule 1	Seq ID 84 & 85
100420	D86983	Hs.118893	Melanoma associated gene	Seq ID 86 & 87
111018	AI287912	Hs.3628	*mitogen-activated protein kinase kinase*	Seq ID 88 & 89
108507	AI554545	Hs.68301	ESTs	Seq ID 90 & 91
104894	AF065214	Hs.18858	phospholipase A2, group IVC (cytosolic,	Seq ID 92 & 93
118511	N75620	Hs.43157	ESTs	Seq ID 94 & 95
125609	AA868063	Hs.104576	carbohydrate (keratan sulfate Gal-6) sul	Seq ID 96 & 97
101543	M31166	Hs.2050	pentaxin-related gene, rapidly induced b	Seq ID 98 & 99
102241	NM_007351	Hs.268107	multimerin	Seq ID 100 & 101
101560	AW958272	Hs.347326	intercellular adhesion molecule 2	Seq ID 102 & 103
103280	U84722	Hs.76206	cadherin 5, type 2, VE-cadherin (vascula	Seq ID 104 & 105
105826	AA478756	Hs.194477	E3 ubiquitin ligase SMURF2	Seq ID 106 & 107
102804	NM_002318	Hs.83354	lysyl oxidase-like 2	Seq ID 108 & 109
131647	AA359615	Hs.30089	ESTs	Seq ID 110 & 111
103095	NM_005424	Hs.78824	tyrosine kinase with immunoglobulin and	Seq ID 112 & 113
103037	BE018302	Hs.2894	placental growth factor, vascular endoth	Seq ID 114 & 115
100405	AW291587	Hs.82733	nidogen 2	Seq ID 116 & 117
102012	BE259035	Hs.118400	singed (Drosophila)-like (sea urchin fas	Seq ID 118 & 119

101261	D30857	Hs.82353	protein C receptor, endothelial (EPCR)	Seq ID 120 & 121
105729	H46612	Hs.293815	Homo sapiens HSPC285 mRNA, partial cds	Seq ID 122 & 123
107216	D51069	Hs.211579	melanoma cell adhesion molecule	Seq ID 124 & 125
131080	NM_001955	Hs.2271	endothelin 1	Seq ID 126 & 127
131486	F06972	Hs.27372	BMX non-receptor tyrosine kinase	Seq ID 128 & 129
134299	AW580939	Hs.97199	complement component C1q receptor	Seq ID 130 & 131
134983	D28235	Hs.196384	prostaglandin-endoperoxide synthase 2 (p	Seq ID 132 & 133
115827	AA428000	Hs.283072	actin related protein 2/3 complex, subun	Seq ID 134 & 135
133614	NM_003003	Hs.75232	SEC14 (S. cerevisiae)-like 1	Seq ID 136 & 137
116483	AI346201	Hs.76118	ubiquitin carboxyl-terminal esterase L1	Seq ID 138 & 139
132546	M24283	Hs.168383	intercellular adhesion molecule 1 (CD54)	Seq ID 140 & 141
133678	AW247252	NA	nucleoside phosphorylase	Seq ID 142 & 143
130184	H58306	Hs.15165	retinoic acid induced 14	Seq ID 144 & 145
134786	T29618	Hs.89640	TEK tyrosine kinase, endothelial (venous	Seq ID 146 & 147
129371	X06828	Hs.110802	von Willebrand factor	Seq ID 148 & 149
418506	AA084248	Hs.85339	G protein-coupled receptor 39	Seq ID 150 & 151
322262	AA632012	Hs.188746	ESTs	Seq ID 152 & 153
312173	AI821409	Hs.304471	EST	Seq ID 154 & 155
319795	AB037821	Hs.146858	protocadherin 10	Seq ID 156 & 157
313978	AI870175	Hs.13957	ESTs	Seq ID 158 & 159
306840	AI077477	Hs.307912	ESTs	Seq ID 160 & 161
310272	AF216389	Hs.148932	sema domain, transmembrane domain (TM),	Seq ID 162 & 163
310272	AF216389	Hs.148932	sema domain, transmembrane domain (TM),	Seq ID 164 & 165
315044	BE547674	Hs.204169	ESTs, Weakly similar to S65657 alpha-1C-	Seq ID 166 & 167
321325	AB033100	Hs.300646	KIAA1274 protein (similar to mouse palad	Seq ID 168 & 169
321325	AB033100	Hs.300646	KIAA1274 protein (similar to mouse palad	Seq ID 170 & 171
303251	AF240635	Hs.115897	protocadherin 12	Seq ID 172 & 173
302378	AL109712	Hs.296506	Homo sapiens mRNA full length insert cDN	Seq ID 174 & 175
319267	F11802	Hs.6818	ESTs	Seq ID 176 & 177
310442	AW072215	Hs.208470	ESTs	Seq ID 178 & 179
300469	BE301708	Hs.233955	*hypothetical protein* FLJ20401	Seq ID 180 & 181
331237	W87874	Hs.25277	Homo sapiens cDNA FLJ10717 fis; clone NT	Seq ID 182 & 183
330968	R44557	Hs.23748	ESTs	Seq ID 184 & 185
301822	X17033	Hs.271986	integrin, alpha 2 (CD49B, alpha 2 subuni	Seq ID 186 & 187
422573	AW297985	Hs.295726	integrin, alpha V (vitronectin receptor	Seq ID 188 & 189
133061	AI186431	Hs.296638	prostate differentiation factor	Seq ID 190 & 191
135235	AW298244	Hs.266195	ESTs	Seq ID 192 & 193
101192	BE247295	Hs.78452	solute carrier family 20 (phosphate tran	Seq ID 194 & 195
113195	H83265	Hs.8881	ESTs, Weakly similar to S41044 chromosom	Seq ID 196 & 197
101741	NM_003199	Hs.326198	transcription factor 4	Seq ID 198 & 199
321911	AF026944	Hs.293797	ESTs	Seq ID 200 & 201
320635	N50617	Hs.80506	small nuclear ribonucleoprotein polypept	Seq ID 202 & 203
326230			NM_017643:Homo sapiens hypothetical prot	Seq ID 204 & 205
132968	AF234532	Hs.61638	myosin X	Seq ID 206 & 207
135073	W55956	Hs.94030	Homo sapiens mRNA; cDNA DKFZp586E1624 (f	Seq ID 208 & 209
108937	AL050107	Hs.24341	*transcriptional co-activator with PDZ-bi*	Seq ID 210 & 211
116430	AK001531	Hs.66048	hypothetical protein FLJ10669	Seq ID 212 & 213
104877	AI138635	Hs.22968	Homo sapiens clone IMAGE:451939, mRNA se	Seq ID 214 & 215
122697	AA420683	Hs.98321	hypothetical protein FLJ14103	Seq ID 216 & 217
112522	R68857	Hs.265499	ESTs	Seq ID 218 & 219
304782	AA582081		gb:nn32h08.s1 NCI_CGAP_Gas1 Homo sapiens	Seq ID 220 & 221
312802	AA644669	Hs.193042	ESTs	Seq ID 222 & 223
302680	AW192334	Hs.38218	ESTs	Seq ID 224 & 225
326198			Phase 2 & 3 Exons	Seq ID 226 & 227
331019	NM_006033	Hs.65370	lipase; endothelial	Seq ID 228 & 229

TABLE 8

Seq ID NO: 1 DNA sequence
Nucleic Acid Accession #: NM_001400
Coding sequence: 244-2208 (underlined sequences correspond to start and stop codons))

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1          11         21         31         41         51
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GTCGGGGGCA GCAGCAAGAT GCGAAGCGAG CCGTACAGAT CCCGGGCTCT CCGAACGCAA    60
CTTCGCCCTG CTTGAGCGAG GCTGCGGTTT CCGAGGCCCT CTCCAGCCAA GGAAAAGCTA   120
CACAAAAAGC CTGGATCACT CATCGAACCA CCCCTGAAGC CAGTGAAGGC TCTCTCGCCT   180
CGCCCTCTAG CGTTCGTCTG GAGTAGCGCC ACCCCGGCTT CCTGGGGACA CAGGGTTGGC   240
ACCATGGGGC CCACCAGCGT CCCGCTGGTC AAGGCCCACC GCAGCTCGGT CTCTGACTAC   300
GTCAACTATG ATATCATCGT CCGGCATTAC AACTACACGG GAAAGCTGAA TATCAGCGCG   360
GACAAGGAGA ACAGCATTAA ACTGACCTCG GTGGTGTTCA TTCTCATCTG CTGCTTTATC   420
ATCCTGGAGA ACATCTTTGT CTTGCTGACC ATTTGGAAAA CCAAGAAATT CCACCGACCC   480
ATGTACTATT TTATTGGCAA TCTGGCCCTC TCAGACCTGT TGGCAGGAGT AGCCTACACA   540
GCTAACCTGC TCTTGTCTGG GGCCACCACC TACAAGCTCA CTCCCGCCCA GTGGTTTCTG   600
CGGGAAGGGA GTATGTTTGT GGCCCTGTCA GCCTCCGTGT TCAGTCTCCT CGCCATCGCC   660
ATTGAGCGCT ATATCACAAT GCTGAAAATG AAACTCCACA ACGGGAGCAA TAACTTCCGC   720
CTCTTCCTGC TAATCAGCGC CTGCTGGGTC ATCTCCCTCA TCCTGGGTGG CCTGCCTATC   780
ATGGGCTGGA ACTGCATCAG TGCGCTGTCC AGCTGCTCCA CCGTGCTGCC GCTCTACCAC   840
AAGCACTATA TCCTCTTCTG CACCACGGTC TTCACTCTGC TTCTGCTCTC CATCGTCATT   900
CTGTACTGCA GAATCTACTC CTTGGTCAGG ACTCGGAGCC GCCGCCTGAC GTTCCGCAAG   960
AACATTTCCA AGGCCAGCCG CAGCTCTGAG AAGTCGCTGG CGCTGCTCAA GACCGTAATT  1020
ATCGTCCTGA GCGTCTTCAT CGCCTGCTGG GCACCGCTCT TCATCCTGCT CCTGCTGGAT  1080
GTGGGCTGCA AGGTGAAGAC CTGTGACATC CTCTTCAGAG CGGAGTACTT CCTGGTGTTA  1140
GCTGTGCTCA ACTCCGGCAC CAACCCCATC ATTTACACTC TGACCAACAA GGAGATGCGT  1200
CGGGCCTTCA TCCGGATCAT GTCCTGCTGC AAGTGCCCGA GCGGAGACTC TGCTGGCAAA  1260
TTCAAGCGAC CCATCATCGC CGGCATGGAA TTCAGCCGCA GCAAATCGGA CAATTCCTCC  1320
CACCCCCAGA AAGACGAAGG GGACAACCCA GAGACCATTA TGTCTTCTGG AAACGTCAAC  1380
TCTTCTTCCT AGAACTGGAA GCTGTCCACC CACCGGAAGC GCTCTTTACT TGGTCGCTGG  1440
CCACCCCAGT GTTTGGAAAA AAATCTCTGG GCTTCGACTG CTGCCAGGGA GGAGCTGCTG  1500
CAAGCCAGAG GGAGGAAGGG GGAGAATACG AACAGCCTGG TGGTGTCGGG TGTTGGTGGG  1560
TAGAGTTAGT TCCTGTGAAC AATGCACTGG GAAGGGTGGA GATCAGGTCC CGGCCTGGAA  1620
TATATATTCT ACCCCCCTGG AGCTTTGATT TTGCACTGAG CCAAAGGTCT AGCATTGTCA  1680
AGCTCCTAAA GGGTTCATTT GGCCCCTCCT CAAAGACTAA TGTCCCCATG TGAAAGCGTC  1740
TCTTTGTCTG GAGCTTTGAG GAGATGTTTT CCTTCACTTT AGTTTCAAAC CCAAGTGAGT  1800
GTGTGCACTT CTGCTTCTTT AGGGATGCCC TGTACATCCC ACACCCCACC CTCCCTTCCC  1860
TTCATACCCC TCCTCAACGT TCTTTTACTT TATACTTTAA CTACCTGAGA GTTATCAGAG  1920
CTGGGGTTGT GGAATGATCG ATCATCTATA GCAAATAGGC TATGTTGAGT ACGTAGGCTG  1980
TGGGAAGATG AAGATGGTTT GGAGGTGTAA AACAATGTCC TTCGCTGAGG CCAAAGTTTC  2040
CATGTAAGCG GGATCCGTTT TTTGGAATTT GGTTGAAGTC ACTTTGATTT CTTTAAAAAA  2100
CATCTTTTCA ATGAAATGTG TTACCATTTC ATATCCATTG AAGCCGAAAT CTGCATAAGG  2160
AAGCCCACTT TATCTAAATG ATATTAGCCA GGATCCTTGG TGTCCTAGGA GAAACAGACA  2220
AGCAAAACAA AGTGAAAACC GAATGGATTA ACTTTTGCAA ACCAAGGGAG ATTTCTTAGC  2280
AAATGAGTCT AACAAATATG ACATCCGTCT TTCCCACTTT TGTTGATGTT TATTTCAGAA  2340
TCTTGTGTGA TTCATTTCAA GCAACAACAT GTTGTATTTT GTTGTGTTAA AAGTACTTTT  2400
CTTGATTTTT GAATGTATTT GTTTCAGGAA GAAGTCATTT TATGGATTTT TCTAACCCGT  2460
GTTAACTTTT CTAGAATCCA CCCTCTTGTG CCCTTAAGCA TTACTTTAAC TGGTAGGGAA  2520
CGCCAGAACT TTTAAGTCCA GCTATTCATT AGATAGTAAT TGAAGATATG TATAAATATT  2580
ACAAAGAATA AAAATATATT ACTGTCTCTT TAGTATGGTT TTCAGTGCAA TTAAACCGAG  2640
AGATGTCTTG TTTTTTTAAA AAGAATAGTA TTTAATAGGT TTCTGACTTT TGTGGATCAT  2700
TTTGCACATA GCTTTATCAA CTTTTAAACA TTAATAAACT GATTTTTTTA AAG
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Seq ID NO: 2 Protein sequence:
Protein Accession #: NP_001391

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|          |          |          |          |          |
MGPTSVPLVK AHRSSVSDYV NYDIIVRHYN YTGKLNISAD KENSIKLTSV VFILICCFII    60
LENIFVLLTI WKTKKFHRPM YYFIGNLALS DLLAGVAYTA NLLLSGATTY KLTPAQWFLR   120
EGSMFVALSA SVFSLLAIAI ERYITMLKMK LHNGSNNFRL FLLISACWVI SLILGGLPIM   180
GWNCISALSS CSTVLPLYHK HYILFCTTVF TLLLLSIVIL YCRIYSLVRT RSRRLTFRKN   240
ISKASRSSEK SLALLKTVII VLSVFIACWA PLFILLLLDV GCKVKTCDIL FRAEYFLVLA   300
VLNSGTNPII YTLTNKEMRR AFIRIMSCCK CPSGDSAGKF KRPIIAGMEF SRSKSDNSSH   360
PQKDEGDNPE TIMSSGNVNS SS
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Seq ID NO: 3 Nucleotide sequence:
Nucleic Acid Accession #: NM_016242
Coding sequence: 79-864 (underlined sequences correspond to start and stop codons))

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ACACCATCTA CGGGCACCAT GGAACTGCTT CAAGTGACCA TTCTTTTTCT TCTGCCCAGT   120
ATTTGCAGCA GTAACAGCAC AGGTGTTTTA GAGGCAGCTA ATAATTCACT TGTTGTTACT   180
ACAACAAAAC CATCTATAAC AACACCAAAC ACAGAATCAT TACAGAAAAA TGTTGTCACA   240
CCAACAACTG GAACAACTCC TAAAGGAACA ATCACCAATG AATTACTTAA AATGTCTCTG   300
ATGTCAACAG CTACTTTTTT AACAAGTAAA GATGAAGGAT TGAAAGCCAC AACCACTGAT   360
GTCAGGAAGA ATGACTCCAT CATTTCAAAC GTAACAGTAA CAAGTGTTAC ACTTCCCAAT   420
GCTGTTTCAA CATTACAAAG TTCCAAACCC AAGACTGAAA CTCAGAGTTC AATTAAAACA   480
ACAGAAATAC CAGGTAGTGT TCTACAACCA GATGCATCAC CTTCTAAAAC TGGTACATTA   540
ACCTCAATAC CAGTTACAAT TCCAGAAAAC ACCTCACAGT CTCAAGTAAT AGACACTGAG   600
GGTGGAAAAA ATGCAAGCAC TTCAGCAACC AGCCGGTCTT ATTCCAGTAT TATTTTGCCG   660
GTGGTTATTG CTTTGATTGT AATAACACTT TCAGTATTTG TTCTGGTGGG TTTGTACCGA   720
ATGTGCTGGA AGGCAGATCC GGGCACACCA GAAAATGGAA ATGATCAACC TCAGTCTGAT   780
AAAGAGAGCG TGAAGCTTCT TACCGTTAAG ACAATTTCTC ATGAGTCTGG TGAGCACTCT   840
GCACAAGGAA AAACCAAGAA CTGACAGCTT GAGGAATTCT CTCCACACCT AGGCAATAAT   900
TACGCTTAAT CTTCAGCTTC TATGCACCAA GCGTGGAAAA GGAGAAAGTC CTGCAGAATC   960
AATCCCGACT TCCATACCTG CTGCTGG
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Seq ID NO: 4 Protein sequence:
Protein Accession #: NP_057326

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1          11         21         31         41         51
|          |          |          |          |          |
MELLQVTILF LLPSICSSNS TGVLEAANNS LVVTTTKPSI TTPNTESLQK NVVTPTTGTT    60
PKGTITNELL KMSLMSTATF LTSKDEGLKA TTTDVRKNDS IISNVTVTSV TLPNAVSTLQ   120
SSKPKTETQS SIKTTEIPGS VLQPDASPSK TGTLTSIPVT IPENTSQSQV IDTEGGKNAS   180
TSATSRSYSS IILPVVIALI VITLSVFVLV GLYRMCWKAD PGTPENGNDQ PQSDKESVKL   240
LTVKTISHES GEHSAQGKTK N
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Seq ID NO: 5 Nucleotide sequence:
Nucleic Acid Accession #: NM_002205
Coding sequence: 24..3173 (underlined sequences correspond to start and stop codons)

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TGCAGCTGCG CTGGGGCCCC CGGCGCCGAC CCCCGCTCGT GCCGCTGCTG TTGCTGCTCG   120
TGCCGCCGCC ACCCAGGGTC GGGGGCTTCA ACTTAGACGC GGAGGCCCCA GCAGTACTCT   180
CGGGGCCCCC GGGCTCCTTC TTCGGATTCT CAGTGGAGTT TTACCGGCCG GGAACAGACG   240
GGGTCAGTGT GCTGGTGGGA GCACCCAAGG CTAATACCAG CCAGCCAGGA GTGCTGCAGG   300
GTGGTGCTGT CTACCTCTGT CCTTGGGGTG CCAGCCCCAC ACAGTGCACC CCCATTGAAT   360
TTGACAGCAA AGGCTCTCGG CTCCTGGAGT CCTCACTGTC CAGCTCAGAG GGAGAGGAGC   420
CTGTGGAGTA CAAGTCCTTG CAGTGGTTCG GGGCAACAGT TCGAGCCCAT GGCTCCTCCA   480
TCTTGGCATG CGCTCCACTG TACAGCTGGC GCACAGAGAA GGAGCCACTG AGCGACCCCG   540
TGGGCACCTG CTACCTCTCC ACAGATAACT TCACCCGAAT TCTGGAGTAT GCACCCTGCC   600
GCTCAGATTT CAGCTGGGCA GCAGGACAGG GTTACTGCCA AGGAGGCTTC AGTGCCGAGT   660
TCACCAAGAC TGGCCGTGTG GTTTTAGGTG GACCAGGAAG CTATTTCTGG CAAGGCCAGA   720
TCCTGTCTGC CACTCAGGAG CAGATTGCAG AATCTTATTA CCCCGAGTAC CTGATCAACC   780
TGGTTCAGGG GCAGCTGCAG ACTCGCCAGG CCAGTTCCAT CTATGATGAC AGCTACCTAG   840
GATACTCTGT GGCTGTTGGT GAATTCAGTG GTGATGACAC AGAAGACTTT GTTGCTGGTG   900
TGCCCAAAGG GAACCTCACT TACGGCTATG TCACCATCCT TAATGGCTCA GACATTCGAT   960
CCCTCTACAA CTTCTCAGGG GAACAGATGG CCTCCTACTT TGGCTATGCA GTGGCCGCCA  1020
CAGACGTCAA TGGGGACGGG CTGGATGACT TGCTGGTGGG GGCACCCCTG CTCATGGATC  1080
GGACCCCTGA CGGGCGGCCT CAGGAGGTGG GCAGGGTCTA CGTCTACCTG CAGCACCCAG  1140
CCGGCATAGA GCCCACGCCC ACCCTTACCC TCACTGGCCA TGATGAGTTT GGCCGATTTG  1200
GCAGCTCCTT GACCCCCCTG GGGGACCTGG ACCAGGATGG CTACAATGAT GTGGCCATCG  1260
GGGCTCCCTT TGGTGGGGAG ACCCAGCAGG GAGTAGTGTT TGTATTTCCT GGGGGCCCAG  1320
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GCAGCTTAGA GGGGAACCCT GTGGCCTGCA TCAACCTTAG CTTCTGCCTC AATGCTTCTG  1620
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AGAAGGGAGG GGTACGGCGG GCACTGTTCC TGGCCTCCAG GCAGGCAACC CTGACCCAGA  1740
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GCCGGATAGA GGACAAGGCT CAGATCTTGC TGGACTGTGG AGAAGACAAC ATCTGTGTGC  1980
CTGACCTGCA GCTGGAAGTG TTTGGGGAGC AGAACCATGT GTACCTGGGT GACAAGAATG  2040
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ATCTCCGGGA CACTAAGAAA ACCATCCAGT TTGACTTCCA GATCCTCAGC AAGAATCTCA  2340
ACAACTCGCA AAGCGACGTG GTTTCCTTTC GGCTCTCCGT GGAGGCTCAG GCCCAGGTCA  2400
CCCTGAACGG TGTCTCCAAG CCTGAGGCAG TGCTATTCCC AGTAAGCGAC TGGCATCCCC  2460
GAGACCAGCC TCAGAAGGAG GAGGACCTGG GACCTGCTGT CCACCATGTC TATGAGCTCA  2520
TCAACCAAGG CCCCAGCTCC ATTAGCCAGG GTGTGCTGGA ACTCAGCTGT CCCCAGGCTC  2580
TGGAAGGTCA GCAGCTCCTA TATGTGACCA GAGTTACGGG ACTCAACTGC ACCACCAATC  2640
ACCCCATTAA CCCAAAGGGC CTGGAGTTGG ATCCCGAGGG TTCCCTGCAC CACCAGCAAA  2700
AACGGGAAGC TCCAAGCCGC AGCTCTGCTT CCTCGGGACC TCAGATCCTG AAATGCCCGG  2760
AGGCTGAGTG TTTCAGGCTG CGCTGTGAGC TCGGGCCCCT GCACCAACAA GAGAGCCAAA  2820
GTCTGCAGTT GCATTTCCGA GTCTGGGCCA AGACTTTCTT GCAGCGGGAG CACCAGCCAT  2880
TTAGCCTGCA GTGTGAGGCT GTGTACAAAG CCCTGAAGAT GCCCTACCGA ATCCTGCCTC  2940
GGCAGCTGCC CCAAAAAGAG CGTCAGGTGG CCACAGCTGT GCAATGGACC AAGGCAGAAG  3000
GCAGCTATGG CGTCCCACTG TGGATCATCA TCCTAGCCAT CCTGTTTGGC CTCCTGCTCC  3060
TAGGTCTACT CATCTACATC CTCTACAAGC TTGGATTCTT CAAACGCTCC CTCCCATATG  3120
GCACCGCCAT GGAAAAAGCT CAGCTCAAGC CTCCAGCCAC CTCTGATGCC TGAGTCCTCC  3180
CAATTTCAGA CTCCCATTCC TGAAGAACCA GTCCCCCCAC CCTCATTCTA CTGAAAAGGA  3240
GGGGTCTGGG TACTTCTTGA AGGTGCTGAC GGCCAGGGAG AAGCTCCTCT CCCCAGCCCA  3300
GAGACATACT TGAAGGGCCA GAGCCAGGGG GGTGAGGAGC TGGGGATCCC TCCCCCCCAT  3360
GCACTGTGAA GGACCCTTGT TTACACATAC CCTCTTCATG GATGGGGGAA CTCAGATCCA  3420
GGGACAGAGG CCCAGCCTCC CTGAAGCCTT TGCATTTTGG AGAGTTTCCT GAAACAACTG  3480
GAAAGATAAC TAGGAAATCC ATTCACAGTT CTTTGGGCCA GACATGCCAC AAGGACTTCC  3540
TGTCCAGCTC CAACCTGCAA AGATCTGTCC TCAGCCTTGC CAGAGATCCA AAAGAAGCCC  3600
CCAGTAAGAA CCTGGAACTT GGGGAGTTAA GACCTGGCAG CTCTGGACAG CCCCACCCTG  3660
GTGGGCCAAC AAAGAACACT AACTATGCAT GGTGCCCCAG GACCAGCTCA GGACAGATGC  3720
CACAAGGATA GATGCTGGCC CAGGGCCAGA GCCCAGCTCC AAGGGGAATC AGAACTCAAA  3780
TGGGGCCAGA TCCAGCCTGG GGTCTGGAGT TGATCTGGAA CCCAGACTCA GACATTGGCA  3840
CCAATCCAGG CAGATCCAGG ACTATATTTG GGCCTGCTCC AGACCTGATC CTGGAGGCCC  3900
AGTTCACCCT GATTTAGGAG AAGCCAGGAA TTTCCCAGGA CCTGAAGGGG CCATGATGGC  3960
AACAGATCTG GAACCTCAGC CTGGCCAGAC ACAGGCCCTC CCTGTTCCCC AGAGAAAGGG  4020
GAGCCCACTG TCCTGGGCCT GCAGAATTTG GGTTCTGCCT GCCAGCTGCA CTGATGCTGC  4080
CCCTCATCTC TCTGCCCAAC CCTTCCCTCA CCTTGGCACC AGACACCCAG GACTTATTTA  4140
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AAAA
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Seq ID NO: 6 Protein sequence:
Protein Accession #: NP_002196.1

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GFSVEFYRPG TDGVSVLVGA PKANTSQPGV LQGGAVYLCP WGASPTQCTP IEFDSKGSRL   120
LESSLSSSEG EEPVEYKSLQ WFGATVRAHG SSILACAPLY SWRTEKEPLS DPVGTCYLST   180
DNFTRILEYA PCRSDFSWAA GQGYCQGGFS AEFTKTGRVV LGGPGSYFWQ GQILSATQEQ   240
IAESYYPEYL INLVQGQLQT RQASSIYDDS YLGYSVAVGE FSGDDTEDFV AGVPKGNLTY   300
GYVTILNGSD IRSLYNFSGE QMASYFGYAV AATDVNGDGL DDLLVGAPLL MDRTPDGRPQ   360
EVGRVYVYLQ HPAGIEPTPT LTLTGHDEFG RFGSSLTPLG DLDQDGYNDV AIGAPFGGET   420
QQGVVFVFPG GPGGLGSKPS QVLQPLWAAS HTPDFFGSAL RGGRDLDGNG YPDLIVGSFG   480
VDKAVVYRGR PIVSASASLT IFPAMFNPEE RSCSLEGNPV ACINLSFCLN ASGKHVADSI   540
GFTVELQLDW QKQKGGVRRA LFLASRQATL TQTLLIQNGA REDCREMKIY LRNESEFRDK   600
LSPIHIALNF SLDPQAPVDS HGLRPALHYQ SKSRIEDKAQ ILLDCGEDNI CVPDLQLEVF   660
GEQNHVYLGD KNALNLTFHA QNVGEGGAYE AELRVTAPPE AEYSGLVRHP GNFSSLSCDY   720
FAVNQSRLLV CDLGNPMKAG ASLWGGLRFT VPHLRDTKKT IQFDFQILSK NLNNSQSDVV   780
SFRLSVEAQA QVTLNGVSKP EAVLFPVSDW HPRDQPQKEE DLGPAVHHVY ELINQGPSSI   840
SQGVLELSCP QALEGQQLLY VTRVTGLNCT TNHPINPKGL ELDPEGSLHH QQKREAPSRS   900
SASSGPQILK CPEAECFRLR CELGPLHQQE SQSLQLHFRV WAKTFLQREH QPFSLQCEAV   960
YKALKMPYRI LPRQLPQKER QVATAVQWTK AEGSYGVPLW IIILAILFGL LLLGLLIYIL  1020
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Seq ID NO: 7 <u>Nucleotide sequence:</u>
Nucleic Acid Accession #:   NM_002211
Coding sequence: 104..2500 (underlined sequences correspond to start and stop codons)

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TTTCTGGATT GGACTGATCA GTTCAGTTTG CTGTGTGTTT GCTCAAACAG ATGAAAATAG   180
ATGTTTAAAA GCAAATGCCA AATCATGTGG AGAATGTATA CAAGCAGGGC CAAATTGTGG   240
GTGGTGCACA AATTCAACAT TTTTACAGGA AGGAATGCCT ACTTCTGCAC GATGTGATGA   300
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AACAGATCTG ATGAATGAAA TGAGGAGGAT TACTTCGGAC TTCAGAATTG GATTTGGCTC   660
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TAATAAAGGA GAAGTATTTA ATGAACTTGT TGGAAAACAG CGCATATCTG GAAATTTGGA   840
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CTGGAGGAAT GTTACACGGC TGCTGGTGTT TTCCACAGAT GCCGGGTTTC ACTTTGCTGG   960
AGATGGGAAA CTTGGTGGCA TTGTTTTACC AAATGATGGA CAATGTCACC TGGAAAATAA  1020
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GAGTGAAAAT AATATTCAGA CAATTTTTGC AGTTACTGAA GAATTTCAGC CTGTTTACAA  1140
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TGTAATTCAG TTGATCATTG ATGCATACAA TTCCCTTTCC TCAGAAGTCA TTTTGGAAAA  1260
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TGAAATTAGC ATAACTTCAA ATAAGTGTCC AAAAAAGGAT TCTGACAGCT TTAAAATTAG  1440
GCCTCTGGGC TTTACGGAGG AAGTAGAGGT TATTCTTCAG TACATCTGTG AATGTGAATG  1500
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TAACAATGGA GAGTGCGTCT GCGGACAGTG TGTTTGTAGG AAGAGGGATA ATACAAATGA  1740
AATTTATTCT GGCAAATTCT GCGAGTGTGA TAATTTCAAC TGTGATAGAT CCAATGGCTT  1800
AATTTGTGGA GGAAATGGTG TTTGCAAGTG TCGTGTGTGT GAGTGCAACC CCAACTACAC  1860
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CTGCAATGGC CGGGGCATCT GCGAGTGTGG TGTCTGTAAG TGTACAGATC CGAAGTTTCA  1980
AGGGCAAACG TGTGAGATGT GTCAGACCTG CCTTGGTGTC TGTGCTGAGC ATAAAGAATG  2040
TGTTCAGTGC AGAGCCTTCA ATAAAGGAGA AAAGAAAGAC ACATGCACAC AGGAATGTTC  2100
CTATTTTAAC ATTACCAAGG TAGAAAGTCG GGACAAATTA CCCCAGCCGG TCCAACCTGA  2160
TCCTGTGTCC CATTGTAAGG AGAAGGATGT TGACGACTGT TGGTTCTATT TTACGTATTC  2220
AGTGAATGGG AACAACGAGG TCATGGTTCA TGTTGTGGAG AATCCAGAGT GTCCCACTGG  2280
TCCAGACATC ATTCCAATTG TAGCTGGTGT GGTTGCTGGA ATTGTTCTTA TTGGCCTTGC  2340
ATTACTGCTG ATATGGAAGC TTTTAATGAT AATTCATGAC AGAAGGGAGT TTGCTAAATT  2400
TGAAAAGGAG AAAATGAATG CCAAATGGGA CACGGGTGAA AATCCTATTT ATAAGAGTGC  2460
CGTAACAACT GTGGTCAATC CGAAGTATGA GGGAAAATGA GTACTGCCCG TGCAAATCCC  2520
ACAACACTGA ATGCAAAGTA GCAATTTCCA TAGTCACAGT TAGGTAGCTT TAGGGCAATA  2580
TTGCCATGGT TTTACTCATG TGCAGGTTTT GAAAATGTAC AATATGTATA ATTTTTAAAA  2640
TGTTTTATTA TTTTGAAAAT AATGTTGTAA TTCATGCCAG GGACTGACAA AAGACTTGAG  2700
ACAGGATGGT TATTCTTGTC AGCTAAGGTC ACATTGTGCC TTTTTGACCT TTTCTTCCTG  2760
GACTATTGAA ATCAAGCTTA TTGGATTAAG TGATATTTCT ATAGCGATTG AAAGGGCAAT  2820
AGTTAAAGTA ATGAGCATGA TGAGAGTTTC TGTTAATCAT GTATTAAAAC TGATTTTTAG  2880
CTTTACATAT GTCAGTTTGC AGTTATGCAG AATCCAAAGT AAATGTCCTG CTAGCTAGTT  2940
AAGGATTGTT TTAAATCTGT TATTTTGCTA TTTGCCTGTT AGACATGACT GATGACATAT  3000
CTGAAAGACA AGTATGTTGA GAGTTGCTGG TGTAAAATAC GTTTGAAATA GTTGATCTAC  3060
AAAGGCCATG GGAAAAATTC AGAGAGTTAG GAAGGAAAAA CCAATAGCTT TAAAACCTGT  3120
GTGCCATTTT AAGAGTTACT TAATGTTTGG TAACTTTTAT GCCTTCACTT TACAAATTCA  3180
AGCCTTAGAT AAAAGAACCG AGCAATTTTC TGCTAAAAAG TCCTTGATTT AGCACTATTT  3240
ACATACAGGC CATACTTTAC AAAGTATTTG CTGAATGGGG ACCTTTTGAG TTGAATTTAT  3300
TTTATTATTT TTATTTTGTT TAATGTCTGG TGCTTTCTAT CACCTCTTCT AATCTTTTAA  3360
TGTATTTGTT TGCAATTTTG GGGTAAGACT TTTTTATGAG TACTTTTTCT TTGAAGTTTT  3420
AGCGGTCAAT TTGCCTTTTT AATGAACATG TGAAGTTATA CTGTGGCTAT GCAACAGCTC  3480
TCACCTACGC GAGTCTTACT TTGAGTTAGT GCCATAACAG ACCACTGTAT GTTTACTTCT  3540
CACCATTTGA GTTGCCCATC TTGTTTCACA CTAGTCACAT TCTTGTTTTA AGTGCCTTTA  3600
GTTTTAACAG TTCA
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Seq ID NO: 8 <u>Protein sequence:</u>
Protein Accession #: NP_002202

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|          |          |          |          |          |
MNLQPIFWIG LISSVCCVFA QTDENRCLKA NAKSCGECIQ AGPNCGWCTN STFLQEGMPT    60
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SARCDDLEAL KKKGCPPDDI ENPRGSKDIK KNKNVTNRSK GTAEKLKPED ITQIQPQQLV   120
LRLRSGEPQT FTLKFKRAED YPIDLYYLMD LSYSMKDDLE NVKSLGTDLM NEMRRITSDF   180
RIGFGSFVEK TVMPYISTTP AKLRNPCTSE QNCTSPFSYK NVLSLTNKGE VFNELVGKQR   240
ISGNLDSPEG GFDAIMQVAV CGSLIGWRNV TRLLVFSTDA GFHFAGDGKL GGIVLPNDGQ   300
CHLENNMYTM SHYYDYPSIA HLVQKLSENN IQTIFAVTEE FQPVYKELKN LIPKSAVGTL   360
SANSSNVIQL IIDAYNSLSS EVILENGKLS EGVTISYKSY CKNGVNGTGE NGRKCSNISI   420
GDEVQFEISI TSNKCPKKDS DSFKIRPLGF TEEVEVILQY ICECECQSEG IPESPKCHEG   480
NGTFECGACR CNEGRVGRHC ECSTDEVNSE DMDAYCRKEN SSEICSNNGE CVCGQCVCRK   540
RDNTNEIYSG KFCECDNFNC DRSNGLICGG NGVCKCRVCE CNPNYTGSAC DCSLDTSTCE   600
ASNGQICNGR GICECGVCKC TDPKFQGQTC EMCQTCLGVC AEHKECVQCR AFNKGEKKDT   660
CTQECSYFNI TKVESRDKLP QPVQPDPVSH CKEKDVDDCW FYFTYSVNGN NEVMVHVVEN   720
PECPTGPDII PIVAGVVAGI VLIGLALLLI WKLLMIIHDR REFAKFEKEK MNAKWDTGEN   780
PIYKSAVTTV VNPKYEGK
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Seq ID NO: 9 Nucleotide sequence:
Nucleic Acid Accession #:NM_002425
Coding sequence: 23..1453 (underlined sequences correspond to start and stop codons)

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AGTCTGCTCT GCCTATCCTC TGAGTGGGGC AGCAAAAGAG GAGGACTCCA ACAAGGATCT    120
TGCCCAGCAA TACCTAGAAA AGTACTACAA CCTCGAAAAG GATGTGAAAC AGTTTAGAAG    180
AAAGGACAGT AATCTCATTG TTAAAAAAAT CCAAGGAATG CAGAAGTTCC TTGGGTTGGA    240
GGTGACAGGG AAGCTAGACA CTGACACTCT GGAGGTGATG CGCAAGCCCA GGTGTGGAGT    300
TCCTGACGTT GGTCACTTCA GCTCCTTTCC TGGCATGCCG AAGTGGAGGA AAACCCACCT    360
TACATACAGG ATTGTGAATT ATACACCAGA TTTGCCAAGA GATGCTGTTG ATTCTGCCAT    420
TGAGAAAGCT CTGAAAGTCT GGGAAGAGGT GACTCCACTC ACATTCTCCA GGCTGTATGA    480
AGGAGAGGCT GATATAATGA TCTCTTTCGC AGTTAAAGAA CATGGAGACT TTTACTCTTT    540
TGATGGCCCA GGACACAGTT TGGCTCATGC CTACCCACCT GGACCTGGGC TTTATGGAGA    600
TATTCACTTT GATGATGATG AAAAATGGAC AGAAGATGCA TCAGGCACCA ATTTATTCCT    660
CGTTGCTGCT CATGAACTTG GCCACTCCCT GGGGCTCTTT CACTCAGCCA ACACTGAAGC    720
TTTGATGTAC CCACTCTACA ACTCATTCAC AGAGCTCGCC CAGTTCCGCC TTTCGCAAGA    780
TGATGTGAAT GGCATTCAGT CTCTCTACGG ACCTCCCCCT GCCTCTACTG AGGAACCCCT    840
GGTGCCCACA AAATCTGTTC CTTCGGGATC TGAGATGCCA GCCAAGTGTG ATCCTGCTTT    900
GTCCTTCGAT GCCATCAGCA CTCTGAGGGG AGAATATCTG TTCTTTAAAG ACAGATATTT    960
TTGGCGAAGA TCCCACTGGA ACCCTGAACC TGAATTTCAT TTGATTTCTG CATTTTGGCC   1020
CTCTCTTCCA TCATATTTGG ATGCTGCATA TGAAGTTAAC AGCAGGGACA CCGTTTTTAT   1080
TTTTAAAGGA AATGAGTTCT GGGCCATCAG AGGAAATGAG GTACAAGCAG GTTATCCAAG   1140
AGGCATCCAT ACCCTGGGTT TTCCTCCAAC CATAAGGAAA ATTGATGCAG CTGTTTCTGA   1200
CAAGGAAAAG AAGAAAACAT ACTTCTTTGC AGCGGACAAA TACTGGAGAT TTGATGAAAA   1260
TAGCCAGTCC ATGGAGCAAG GCTTCCCTAG ACTAATAGCT GATGACTTTC CAGGAGTTGA   1320
GCCTAAGGTT GATGCTGTAT TACAGGCATT TGGATTTTTC TACTTCTTCA GTGGATCATC   1380
ACAGTTTGAG TTTGACCCCA ATGCCAGGAT GGTGACACAC ATATTAAAGA GTAACAGCTG   1440
GTTACATTGC TAGGCGAGAT AGGGGGAAGA CAGATATGGG TGTTTTTAAT AAATCTAATA   1500
ATTATTCATC TAATGTATTA TGAGCCAAAA TGGTTAATTT TTCCTGCATG TTCTGTGACT   1560
GAAGAAGATG AGCCTTGCAG ATATCTGCAT GTGTCATGAA GAATGTTTCT GGAATTCTTC   1620
ACTTGCTTTT GAATTGCACT GAACAGAATT AAGAAATACT CATGTGCAAT AGGTGAGAGA   1680
ATGTATTTTC ATAGATGTGT TATTACTTCC TCAATAAAAA GTTTTATTTT GGGCCTGTTC   1740
CTT
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Seq ID NO: 10 Protein sequence:
Protein Accession #: NP_002416

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1          11         21         31         41         51
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MMHLAFLVLL CLPVCSAYPL SGAAKEEDSN KDLAQQYLEK YYNLEKDVKQ FRRKDSNLIV    60
KKIQGMQKFL GLEVTGKLDT DTLEVMRKPR CGVPDVGHFS SFPGMPKWRK THLTYRIVNY   120
TPDLPRDAVD SAIEKALKVW EEVTPLTFSR LYEGEADIMI SFAVKEHGDF YSFDGPGHSL   180
AHAYPPGPGL YGDIHFDDDE KWTEDASGTN LFLVAAHELG HSLGLFHSAN TEALMYPLYN   240
SFTELAQFRL SQDDVNGIQS LYGPPPASTE EPLVPTKSVP SGSEMPAKCD PALSFDAIST   300
LRGEYLFFKD RYFWRRSHWN PEPEFHLISA FWPSLPSYLD AAYEVNSRDT VFIFKGNEFW   360
AIRGNEVQAG YPRGIHTLGF PPTIRKIDAA VSDKEKKKTY FFAADKYWRF DENSQSMEQG   420
FPRLIADDFP GVEPKVDAVL QAFGFFYFFS GSSQFEFDPN ARMVTHILKS NSWLHC
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Seq ID NO: 11 Nucleotide sequence:
Nucleic Acid Accession #: XM_058189
Coding sequence: 169..774 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
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AGTATTTCAC ACTGAGATTG TCGGCTGCGG GTATATTCCA ATTCCCCGTC TCCTCATGAA   120
TATGAAGTGA AGGGCTCTGA CCCTGGAAGT GGTTCTAAGC AGGGCAAAAT GGGGTCTCGG   180
AAGTGTGGAG GCTGCCTAAG TTGTTTGCTG ATTCCGCTTG CACTTTGGAG TATAATCGTG   240
AACATATTAT TGTATTTCCC GAATGGGCAA ACTTCCTATG CATCCAGCAA TAAACTCACC   300
AACTACGTGT GGTATTTTGA AGGAATCTGT TTCTCAGGCA TCATGATGCT TATAGTAACA   360
ACAGTTCTTC TGGTACTGGA GAATAATAAC AACTATAAAT GTTGCCAGAG TGAAAACTGC   420
AGCAAAAAAT ATGTGACACT GCTGTCAATT ATCTTTTCTT CCCTCGGAAT TGCTTTTTCT   480
GGATACTGCC TGGTCATCTC TGCCTTGGGT CTTGTCCAAG GGCCATATTG CCGCACCCTT   540
GATGGCTGGG AGTATGCTTT TGAAGGCACT GCTGGACGTT TCCTTACAGA TTCTAGCATA   600
TGGATTCAGT GCCTGGAACC TGCACATGTT GTGGAGTGGA ACATCATTTT ATTTTCCATT   660
CTCATAACCC TCAGTGGGCT TCAAGTGATC ATCTGCCTCA TCAGAGTAGT CATGCAACTA   720
TCCAAGATAC TGTGTGGAAG CTATTCAGTG ATCTTCCAGC CTGGAATCAT TTGAATAAGG   780
ACAAAATGTT TTCCATTATC AAGACATGGC CATCTATCTA AATATTATAT CAACTGTGTA   840
GACTTGAGGG CAATATTGAA ATGATGGTGC TTTCTGCATT TGGTGTTTAT TTGTAAAAAA   900
TTTGCAGTCC TCACTGCACA TGCAAGTATA CCACCCTTCC ATTTAGTATG TTTTTTAAGT   960
AATATGCATC AGAAACTTCA GAAATACTTC TGCCCTTTGA TCAAACAAAT CCATTTCCAA  1020
GAATCTGTAC TAGGGAAGTA AATAAGAATA TGAGAGAAAC CTTTATGCAA ATATGTATAT  1080
TGCAACATTA TTTAATATTC TGGAAAATTG GAAACACCCC AAAATTCTAA ACTCAGAGGA  1140
AGGATTAAGT AAAGAGTGGT ACATACTGTA AATGTTTTCT GATATTAAAA AAAAAATTAA  1200
ATAAAAAATA AAGAGTACTA CATGGTTGTA AAA
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Seq ID NO: 12 Protein sequence:
Protein Accession #: XP_058189

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1          11         21         31         41         51
|          |          |          |          |          |
MGSRKCGGCL SCLLIPLALW SIIVNILLYF PNGQTSYASS NKLTNYVWYF EGICFSGIMM    60
LIVTTVLLVL ENNNNYKCCQ SENCSKKYVT LLSIIFSSLG IAFSGYCLVI SALGLVQGPY   120
CRTLDGWEYA FEGTAGRFLT DSSIWIQCLE PAHVVEWNII LFSILITLSG LQVIICLIRV   180
VMQLSKILCG SYSVIFQPGI I
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Seq ID NO: 13 Nucleotide sequence:
Nucleic Acid Accession #: NM_005397
Coding sequence: 251..1837 (underlined sequences correspond to start and stop codons)

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CAGCCCGGCT CTGCTGCAGC GGCAGGGAGG AAGAGCCGCC GCAGCGCGAC TCGGGAGCCC   120
CGGGCCACAG CCTGGCCTCC GGAGCCACCC ACAGGCCTCC CCGGGCGGCG CCCACGCTCC   180
TACCGCCCGG ACGCGCGGAT CCTCCGCCGG CACCGCAGCC ACCTGCTCCC GGCCCAGAGG   240
CGACGACACG ATGCGCTGCG CGCTGGCGCT CTCGGCGCTG CTGCTACTGT TGTCAACGCC   300
GCCGCTGCTG CCGTCGTCGC CGTCGCCGTC GCCGTCGCCG TCGCCCTCCC AGAATGCAAC   360
CCAGACTACT ACGGACTCAT CTAACAAAAC AGCACCGACT CCAGCATCCA GTGTCACCAT   420
CATGGCTACA GATACAGCCC AGCAGAGCAC AGTCCCCACT TCCAAGGCCA ACGAAATCTT   480
GGCCTCGGTC AAGGCGACCA CCCTTGGTGT ATCCAGTGAC TCACCGGGGA CTACAACCCT   540
GGCTCAGCAA GTCTCAGGCC CAGTCAACAC TACCGTGGCT AGAGGAGGCG GCTCAGGCAA   600
CCCTACTACC ACCATCGAGA GCCCCAAGAG CACAAAAAGT GCAGACACCA CTACAGTTGC   660
AACCTCCACA GCCACAGCTA AACCTAACAC CACAAGCAGC CAGAATGGAG CAGAAGATAC   720
AACAAACTCT GGGGGGAAAA GCAGCCACAG TGTGACCACA GACCTCACAT CCACTAAGGC   780
AGAACATCTG ACGACCCCTC ACCCTACAAG TCCACTTAGC CCCCGACAAC CCACTTTGAC   840
GCATCCTGTG GCCACCCCAA CAAGCTCGGG ACATGACCAT CTTATGAAAA TTTCAAGCAG   900
TTCAAGCACT GTGGCTATCC CTGGCTACAC CTTCACAAGC CCGGGGATGA CCACCACCCT   960
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ACCTACCCTG CCAGAGACCA TGAGCTCCAG CCCCACAGCA GCATCAACTA CCCACCGATA  1140
CCCCAAAACA CCTTCTCCCA CTGTGGCTCA TGAGAGTAAC TGGGCAAAGT GTGAGGATCT  1200
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CGTGGTCGTC AAAGAAATCA CTATTCACAC TAAGCTCCCT GCCAAGGATG TGTACGAGCG  1440
GCTGAAGGAC AAATGGGATG AACTAAAGGA GGCAGGGGTC AGTGACATGA AGCTAGGGGA  1500
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CCATGACAAC CCAACACTGG AAGTGATGGA GACCTCTTCT GAGATGCAGG AGAAGAAGGT  1740
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CTAGTGCCTG AGCTCAGTGC TGCTGGATGA TGAGGGAGAT CAAGAAAAAG CCACGTAAGG  2100
GACTTTATAG ATGAACTAGT GGAATCCCTT CATTCTGCAG TGAGATTGCC GAGACCTGAA  2160
GAGGGTAAGT GACTTGCCCA AGGTCAGAGC CACTTGGTGA CAGAGCCAGG ATGAGAACAA  2220
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GCCAGGAAGG ACAGGCTTTC CCCTGTATAT CATAGGAAAC TCAGGGACAT TTCAAGTTGC  3000
TGAGAGTTTT GTTATAGTTG TTTTCTAACC CAGCCCTCCA CTGCCAAAGG CCAAAAGCTC  3060
AGACAGTTGG CAGACGTCCA GTTAGCTCAT CTCACTCACT CTGATTCTCC TGTGCCACAG  3120
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CTGGGCTGAT TCAGAGGTTA CTGCTTTATA TTCGTCCAAA CTGTGTTAGT CTAGGCTTAG  4260
GACAGCTTCA GAATCTGACA CCTTGCCTTG CTCTTGCCAC CAGGACACCT ATGTCAACAG  4320
GCCAAACAGC CATGCATCTA TAAAGGTCAT CATCTTCTGC CACCTTTACT GGGTTCTAAA  4380
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TATAACAAGA CAAACTTATG ATAAAGTATT TGTCTTGTAG ATCAGGTGTT TTGTTTTGTT  5040
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GACTGTGCGC CTCAGAAGGA ATAATCGGTA AATTAAGAAT TGCTACTCGA AGGTGCCAGA  5340
ATGACACAAA GGACAGAATT CCTTTCCCAG TTGTTACCCT AGCAAGGCTA GGGAGGGCAT  5400
GAACACAAAC ATAAGAACTG GTCTTCTCAC ACTTTCTCTG AATCATTTAG GTTTAAGATG  5460
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GAACTTACTC CAACAGGACT GAGGGACCAA GGAAACATGA TGGGGGAGGC AAGAGAGGGC  5580
AAAGAGTAAA ACTGTAGCAT AGCTTTTGTC ACGGTCACTA GCTGATCCCT CAGGTCTGCT  5640
GCAAACACAG CATGGAGGAC ACAGATGACT CTTTGGTGTT GGTCTTTTTG TCTGCAGTGA  5700
ATGTTCAACA GTTTGCCCAG GAACTGGGGG ATCATATATG TCTTAGTGGA CAGGGGTCTG  5760
AAGTACACTG GAATTTACTG AGAAACTTGT TTGTAAAAAC TATAGTTAAT AATTATTGCA  5820
TTTTCTTACA AAAATATATT TTGGAAAATT GTATACTGTC AATTAAAGT
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Seq ID NO: 14 <u>Protein sequence:</u>
Protein Accession #: NP_005388

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|          |          |          |          |          |
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DTAQQSTVPT SKANEILASV KATTLGVSSD SPGTTTLAQQ VSGPVNTTVA RGGGSGNPTT   120
TIESPKSTKS ADTTTVATST ATAKPNTTSS QNGAEDTTNS GGKSSHSVTT DLTSTKAEHL   180
TTPHPTSPLS PRQPTLTHPV ATPTSSGHDH LMKISSSSST VAIPGYTFTS PGMTTTLPSS   240
VISQRTQQTS SQMPASSTAP SSQETVQPTS PATALRTPTL PETMSSSPTA ASTTHRYPKT   300
PSPTVAHESN WAKCEDLETQ TQSEKQLVLN LTGNTLCAGG ASDEKLISLI CRAVKATFNP   360
AQDKCGIRLA SVPGSQTVVV KEITIHTKLP AKDVYERLKD KWDELKEAGV SDMKLGDQGP   420
PEEAEDRFSM PLIITIVCMA SFLLLVAALY GCCHQRLSQR KDQQRLTEEL QTVENGYHDN   480
PTLEVMETSS EMQEKKVVSL NGELGDSWIV PLDNLTKDDL DEEEDTHL
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Seq ID NO: 15 Nucleotide sequence:
Nucleic Acid Accession #: NM_004105
Coding sequence: 150..1631 (underlined sequences correspond to start and stop codons)

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AAAATAAAAA GCTTGAGCAG CAATTCATAT TACTGTCACA GGTATTTTTG CTGTGCTGTG   120
CAAGGTAACT CTGCTAGCTA AGATTCACAA TGTTGAAAGC CCTTTTCCTA ACTATGCTGA   180
CTCTGGCGCT GGTCAAGTCA CAGGACACCG AAGAAACCAT CACGTACACG CAATGCACTG   240
ACGGATATGA GTGGGATCCT GTGAGACAGC AATGCAAAGA TATTGATGAA TGTGACATTG   300
TCCCAGACGC TTGTAAAGGT GGAATGAAGT GTGTCAACCA CTATGGAGGA TACCTCTGCC   360
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CCAACCCTTC CCACCGTATC CAGTGTGCAG CAGGCTACGA GCAAAGTGAA CACAACGTGT   660
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AGTGCGTAGA CATAGATGAA TGTACCATCC CTCCATATTG CCACCAAAGA TGCGTGAATA   840
CACCAGGCTC ATTTTATTGC CAGTGCAGTC CTGGGTTTCA ATTGGCAGCA AACAACTATA   900
CCTGCGTAGA TATAAATGAA TGTGATGCCA GCAATCAATG TGCTCAGCAG TGCTACAACA   960
TTCTTGGTTC ATTCATCTGT CAGTGCAATC AAGGATATGA GCTAAGCAGT GACAGGCTCA  1020
ACTGTGAAGA CATTGATGAA TGCAGAACCT CAAGCTACCT GTGTCAATAT CAATGTGTCA  1080
ATGAACCTGG GAAATTCTCA TGTATGTGCC CCCAGGGATA CCAAGTGGTG AGAAGTAGAA  1140
CATGTCAAGA TATAAATGAG TGTGAGACCA CAAATGAATG CCGGGAGGAT GAAATGTGTT  1200
GGAATTATCA TGGCGGCTTC CGTTGTTATC CACGAAATCC TTGTCAAGAT CCCTACATTC  1260
TAACACCAGA GAACCGATGT GTTTGCCCAG TCTCAAATGC CATGTGCCGA GAACTGCCCC  1320
AGTCAATAGT CTACAAATAC ATGAGCATCC GATCTGATAG GTCTGTGCCA TCAGACATCT  1380
TCCAGATACA GGCCACAACT ATTTATGCCA ACACCATCAA TACTTTTCGG ATTAAATCTG  1440
GAAATGAAAA TGGAGAGTTC TACCTACGAC AAACAAGTCC TGTAAGTGCA ATGCTTGTGC  1500
TCGTGAAGTC ATTATCAGGA CCAAGAGAAC ATATCGTGGA CCTGGAGATG CTGACAGTCA  1560
GCAGTATAGG GACCTTCCGC ACAAGCTCTG TGTTAAGATT GACAATAATA GTGGGGCCAT  1620
TTTCATTTTA GTCTTTTCTA AGAGTCAACC ACAGGCATTT AAGTCAGCCA AAGAATATTG  1680
TTACCTTAAA GCACTATTTT ATTTATAGAT ATATCTAGTG CATCTACATC TCTATACTGT  1740
ACACTCACCC ATAACAAACA ATTACACCAT GGTATAAAGT GGGCATTTAA TATGTAAAGA  1800
TTCAAAGTTT GTCTTTATTA CTATATGTAA ATTAGACATT AATCCACTAA ACTGGTCTTC  1860
TTCAAGAGAG CTAAGTATAC ACTATCTGGT GAAACTTGGA TTCTTTCCTA TAAAAGTGGG  1920
ACCAAGCAAT GATGATCTTC TGTGGTGCTT AAGGAAACTT ACTAGAGCTC CACTAACAGT  1980
CTCATAAGGA GGCAGCCATC ATAACCATTG AATAGCATGC AAGGGTAAGA ATGAGTTTTT  2040
AACTGCTTTG TAAGAAAATG GAAAAGGTCA ATAAAGATAT ATTTCTTTAG AAAATGGGGA  2100
TCTGCCATAT TTGTGTTGGT TTTTATTTTC ATATCCAGCC TAAAGGTGGT TGTTTATTAT  2160
ATAGTAATAA ATCATTGCTG TACAACATGC TGGTTTCTGT AGGGTATTTT TAATTTTGTC  2220
AGAAATTTTA GATTGTGAAT ATTTTGTAAA AAACAGTAAG CAAAATTTTC CAGAATTCCC  2280
AAAATGAACC AGATACCCCC TAGAAAATTA TACTATTGAG AAATCTATGG GGAGGATATG  2340
AGAAAATAAA TTCCTTCTAA ACCACATTGG AACTGACCTG AAGAAGCAAA CTCGGAAAAT  2400
ATAATAACAT CCCTGAATTC AGGCATTCAC AAGATGCAGA ACAAAATGGA TAAAAGGTAT  2460
TTCACTGGAG AAGTTTTAAT TTCTAAGTAA AATTTAAATC CTAACACTTC ACTAATTTAT  2520
AACTAAAATT TCTCATCTTC GTACTTGATG CTCACAGAGG AAGAAAATGA TGATGGTTTT  2580
TATTCCTGGC ATCCAGAGTG ACAGTGAACT TAAGCAAATT ACCCTCCTAC CCAATTCTAT  2640
GGAATATTTT ATACGTCTCC TTGTTTAAAA TCTGACTGCT TTACTTTGAT GTATCATATT  2700
TTTAAATAAA AATAAATATT CCTTTAGAAG ATCACTCTAA AA
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Seq ID NO: 16 Protein sequence:
Protein Accession #: NP_004096

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1          11         21         31         41         51
|          |          |          |          |          |
MLKALFLTML TLALVKSQDT EETITYTQCT DGYEWDPVRQ QCKDIDECDI VPDACKGGMK    60
CVNHYGGYLC LPKTAQIIVN NEQPQQETQP AEGTSGATTG VVAASSMATS GVLPGGGFVA   120
SAAAVAGPEM QTGRNNFVIR RNPADPQRIP SNPSHRIQCA AGYEQSEHNV CQDIDECTAG   180
THNCRADQVC INLRGSFACQ CPPGYQKRGE QCVDIDECTI PPYCHQRCVN TPGSFYCQCS   240
PGFQLAANNY TCVDINECDA SNQCAQQCYN ILGSFICQCN QGYELSSDRL NCEDIDECRT   300
SSYLCQYQCV NEPGKFSCMC PQGYQVVRSR TCQDINECET TNECREDEMC WNYHGGFRCY   360
PRNPCQDPYI LTPENRCVCP VSNAMCRELP QSIVYKYMSI RSDRSVPSDI FQIQATTIYA   420
NTINTFRIKS GNENGEFYLR QTSPVSAMLV LVKSLSGPRE HIVDLEMLTV SSIGTFRTSS   480
VLRLTIIVGP FSF
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Seq ID NO: 17 Nucleotide sequence:
Nucleic Acid Accession #: NM_018894
Coding sequence: 27..1967 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
AAAACATTCA ACAAATTAAT GGGTGTAAGG AACTGGAAAA CCTGGACTCC TACCACATGC    60
AGATAAAACC AATAGAGTGC AGAATAAGAC TCAAGTCAAG TAAGTAACGT TAAACACCAT   120
AAAGACACAT GGCCTTCTTT GTGTACATGA CATGCATTCT CAACAATGCA CTGACGGATA   180
TGAGTGGGAT CCTGTGAGAC AGCAATGCAA AGATATTGAT GAATGTGACA TTGTCCCAGA   240
CGCTTGTAAA GGTGGAATGA AGTGTGTCAA CCACTATGGA GGATACCTCT GCCTTCCGAA   300
AACAGCCCAG ATTATTGTCA ATAATGAACA GCCTCAGCAG GAAACACAAC CAGCAGAAGG   360
AACCTCAGGG GCAACCACCG GGGTTGTAGC TGCCAGCAGC ATGGCAACCA GTGGAGTGTT   420
GCCCGGGGGT GGTTTTGTGG CCAGTGCTGC TGCAGTCGCA GGCCCTGAAA TGCAGACTGG   480
CCGAAATAAC TTTGTCATCC GGCGGAACCC AGCTGACCCT CAGCGCATTC CCTCCAACCC   540
TTCCCACCGT ATCCAGTGTG CAGCAGGCTA CGAGCAAAGT GAACACAACG TGTGCCAAGA   600
CATAGACGAG TGCACTGCAG GGACGCACAA CTGTAGAGCA GACCAAGTGT GCATCAATTT   660
ACGGGGATCC TTTGCATGTC AGTGCCCTCC TGGATATCAG AAGCGAGGGG AGCAGTGCGT   720
AGACATAGAT GAATGTACCA TCCCTCCATA TTGCCACCAA AGATGCGTGA ATACACCAGG   780
CTCATTTTAT TGCCAGTGCA GTCCTGGGTT TCAATTGGCA GCAAACAACT ATACCTGCGT   840
AGATATAAAT GAATGTGATG CCAGCAATCA ATGTGCTCAG CAGTGCTACA ACATTCTTGG   900
TTCATTCATC TGTCAGTGCA ATCAAGGATA TGAGCTAAGC AGTGACAGGC TCAACTGTGA   960
AGACATTGAT GAATGCAGAA CCTCAAGCTA CCTGTGTCAA TATCAATGTG TCAATGAACC  1020
TGGGAAATTC TCATGTATGT GCCCCCAGGG ATACCAAGTG GTGAGAAGTA GAACATGTCA  1080
AGATATAAAT GAGTGTGAGA CCACAAATGA ATGCCGGGAG GATGAAATGT GTTGGAATTA  1140
TCATGGCGGC TTCCGTTGTT ATCCACGAAA TCCTTGTCAA GATCCCTACA TTCTAACACC  1200
AGAGAACCGA TGTGTTTGCC CAGTCTCAAA TGCCATGTGC CGAGAACTGC CCCAGTCAAT  1260
AGTCTACAAA TACATGAGCA TCCGATCTGA TAGGTCTGTG CCATCAGACA TCTTCCAGAT  1320
ACAGGCCACA ACTATTTATG CCAACACCAT CAATACTTTT CGGATTAAAT CTGGAAATGA  1380
AAATGGAGAG TTCTACCTAC GACAAACAAG TCCTGTAAGT GCAATGCTTG TGCTCGTGAA  1440
GTCATTATCA GGACCAAGAG AACATATCGT GGACCTGGAG ATGCTGACAG TCAGCAGTAT  1500
AGGGACCTTC CGCACAAGCT CTGTGTTAAG ATTGACAATA ATAGTGGGGC CATTTTCATT  1560
TTAGTCTTTT CTAAGAGTCA ACCACAGGCA TTTAAGTCAG CCAAAGAATA TTGTTACCTT  1620
AAAGCACTAT TTTATTTATA GATATATCTA GTGCATCTAC ATCTCTATAC TGTACACTCA  1680
CCCATAACAA ACAATTACAC CATGGTATAA AGTGGGCATT TAATATGTAA AGATTCAAAG  1740
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GAGCTAAGTA TACACTATCT GGTGAAACTT GGATTCTTTC CTATAAAAGT GGGACCAAGC  1860
AATGATGATC TTCTGTGGTG CTTAAGGAAA CTTACTAGAG CTCCACTAAC AGTCTCATAA  1920
GGAGGCAGCC ATCATAACCA TTGAATAGCA TGCAAGGGTA AGAATGAGTT TTTAACTGCT  1980
TTGTAAGAAA ATGGAAAAGG TCAATAAAGA TATATTTCTT TAGAAAATGG GGATCTGCCA  2040
TATTTGTGTT GGTTTTTATT TTCATATCCA GCCTAAAGGT GGTTGTTTAT TATATAGTAA  2100
TAAATCATTG CTGTACAACA TGCTGGTTTC TGTAGGGTAT TTTTAATTTT GTCAGAAATT  2160
TTAGATTGTG AATATTTTGT AAAAAACAGT AAGCAAAATT TTCCAGAATT CCCAAAATGA  2220
ACCAGATACC CCCTAGAAAA TTATACTATT GAGAAATCTA TGGGGAGGAT ATGAGAAAAT  2280
AAATTCCTTC TAAACCACAT TGGAACTGAC CTGAAGAAGC AAACTCGGAA AATATAATAA  2340
CATCCCTGAA TTCAGGCATT CACAAGATGC AGAACAAAAT GGATAAAAGG TATTTCACTG  2400
GAGAAGTTTT AATTTCTAAG TAAAATTTAA ATCCTAACAC TTCACTAATT TATAACTAAA  2460
ATTTCTCATC TTCGTACTTG ATGCTCACAG AGGAAGAAAA TGATGATGGT TTTTATTCCT  2520
GGCATCCAGA GTGACAGTGA ACTTAAGCAA ATTACCCTCC TACCCAATTC TATGGAATAT  2580
TTTATACGTC TCCTTGTTTA AAATCTGACT GCTTTACTTT GATGTATCAT ATTTTTAAAT  2640
AAAAATAAAT ATTCCTTTAG AAGATCACTC TAAAA
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Seq ID NO: 18 Protein sequence:
Protein Accession #: NP_061489.1

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1          11         21         31         41         51
|          |          |          |          |          |
MHSQQCTDGY EWDPVRQQCK DIDECDIVPD ACKGGMKCVN HYGGYLCLPK TAQIIVNNEQ    60
PQQETQPAEG TSGATTGVVA ASSMATSGVL PGGGFVASAA AVAGPEMQTG RNNFVIRRNP   120
ADPQRIPSNP SHRIQCAAGY EQSEHNVCQD IDECTAGTHN CRADQVCINL RGSFACQCPP   180
GYQKRGEQCV DIDECTIPPY CHQRCVNTPG SFYCQCSPGF QLAANNYTCV DINECDASNQ   240
CAQQCYNILG SFICQCNQGY ELSSDRLNCE DIDECRTSSY LCQYQCVNEP GKFSCMCPQG   300
YQVVRSRTCQ DINECETTNE CREDEMCWNY HGGFRCYPRN PCQDPYILTP ENRCVCPVSN   360
AMCRELPQSI VYKYMSIRSD RSVPSDIFQI QATTIYANTI NTFRIKSGNE NGEFYLRQTS   420
PVSAMLVLVK SLSGPREHIV DLEMLTVSSI GTFRTSSVLR LTIIVGPFSF
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Seq ID NO: 19 Nucleotide sequence:
Nucleic Acid Accession #: NM_006500
Coding sequence: 27..1967 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
ACTTGCGTCT CGCCCTCCGG CCAAGCATGG GGCTTCCCAG GCTGGTCTGC GCCTTCTTGC    60
TCGCCGCCTG CTGCTGCTGT CCTCGCGTCG CGGGTGTGCC CGGAGAGGCT GAGCAGCCTG   120
CGCCTGAGCT GGTGGAGGTG GAAGTGGGCA GCACAGCCCT TCTGAAGTGC GGCCTCTCCC   180
AGTCCCAAGG CAACCTCAGC CATGTCGACT GGTTTTCTGT CCACAAGGAG AAGCGGACGC   240
TCATCTTCCG TGTGCGCCAG GGCCAGGGCC AGAGCGAACC TGGGGAGTAC GAGCAGCGGC   300
TCAGCCTCCA GGACAGAGGG GCTACTCTGG CCCTGACTCA AGTCACCCCC CAAGACGAGC   360
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GCATCTTCTT GTGCCAGGGC AAGCGCCCTC GGTCCCAGGA GTACCGCATC CAGCTCCGCG   420
TCTACAAAGC TCCGGAGGAG CCAAACATCC AGGTCAACCC CCTGGGCATC CCTGTGAACA   480
GTAAGGAGCC TGAGGAGGTC GCTACCTGTG TAGGGAGGAA CGGGTACCCC ATTCCTCAAG   540
TCATCTGGTA CAAGAATGGC CGGCCTCTGA AGGAGGAGAA GAACCGGGTC CACATTCAGT   600
CGTCCCAGAC TGTGGAGTCG AGTGGTTTGT ACACCTTGCA GAGTATTCTG AAGGCACAGC   660
TGGTTAAAGA AGACAAAGAT GCCCAGTTTT ACTGTGAGCT CAACTACCGG CTGCCCAGTG   720
GGAACCACAT GAAGGAGTCC AGGGAAGTCA CCGTCCCTGT TTTCTACCCG ACAGAAAAAG   780
TGTGGCTGGA AGTGGAGCCC GTGGGAATGC TGAAGGAAGG GGACCGCGTG GAAATCAGGT   840
GTTTGGCTGA TGGCAACCCT CCACCACACT TCAGCATCAG CAAGCAGAAC CCCAGCACCA   900
GGGAGGCAGA GGAAGAGACA ACCAACGACA ACGGGGTCCT GGTGCTGGAG CCTGCCCGGA   960
AGGAACACAG TGGGCGCTAT GAATGTCAGG CCTGGAACTT GGACACCATG ATATCGCTGC  1020
TGAGTGAACC ACAGGAACTA CTGGTGAACT ATGTGTCTGA CGTCCGAGTG AGTCCCGCAG  1080
CCCCTGAGAG ACAGGAAGGC AGCAGCCTCA CCCTGACCTG TGAGGCAGAG AGTAGCCAGG  1140
ACCTCGAGTT CCAGTGGCTG AGAGAAGAGA CAGACCAGGT GCTGGAAAGG GGGCCTGTGC  1200
TTCAGTTGCA TGACCTGAAA CGGGAGGCAG GAGGCGGCTA TCGCTGCGTG GCGTCTGTGC  1260
CCAGCATACC CGGCCTGAAC CGCACACAGC TGGTCAAGCT GGCCATTTTT GGCCCCCCTT  1320
GGATGGCATT CAAGGAGAGG AAGGTGTGGG TGAAAGAGAA TATGGTGTTG AATCTGTCTT  1380
GTGAAGCGTC AGGGCACCCC CGGCCCACCA TCTCCTGGAA CGTCAACGGC ACGGCAAGTG  1440
AACAAGACCA AGATCCACAG CGAGTCCTGA GCACCCTGAA TGTCCTCGTG ACCCCGGAGC  1500
TGTTGGAGAC AGGTGTTGAA TGCACGGCCT CCAACGACCT GGGCAAAAAC ACCAGCATCC  1560
TCTTCCTGGA GCTGGTCAAT TTAACCACCC TCACACCAGA CTCCAACACA ACCACTGGCC  1620
TCAGCACTTC CACTGCCAGT CCTCATACCA GAGCCAACAG CACCTCCACA GAGAGAAAGC  1680
TGCCGGAGCC GGAGAGCCGG GGCGTGGTCA TCGTGGCTGT GATTGTGTGC ATCCTGGTCC  1740
TGGCGGTGCT GGGCGCTGTC CTCTATTTCC TCTATAAGAA GGGCAAGCTG CCGTGCAGGC  1800
GCTCAGGGAA GCAGGAGATC ACGCTGCCCC CGTCTCGTAA GACCGAACTT GTAGTTGAAG  1860
TTAAGTCAGA TAAGCTCCCA GAAGAGATGG GCCTCCTGCA GGGCAGCAGC GGTGACAAGA  1920
GGGCTCCGGG AGACCAGGGA GAGAAATACA TCGATCTGAG GCATTAGCCC CGAATCACTT  1980
CAGCTCCCTT CCCTGCCTGG ACCATTCCCA GCTCCCTGCT CACTCTTCTC TCAGCCAAAG  2040
CCTCCAAAGG GACTAGAGAG AAGCCTCCTG CTCCCCTCAC CTGCACACCC CCTTTCAGAG  2100
GGCCACTGGG TTAGGACCTG AGGACCTCAC TTGGCCCTGC AAGCCGCTTT TCAGGGACCA  2160
GTCCACCACC ATCTCCTCCA CGTTGAGTGA AGCTCATCCC AAGCAAGGAG CCCCAGTCTC  2220
CCGAGCGGGT AGGAGAGTTT CTTGCAGAAC GTGTTTTTTC TTTACACACA TTATGGCTGT  2280
AAATACCTGG CTCCTGCCAG CAGCTGAGCT GGGTAGCCTC TCTGAGCTGG TTTCCTGCCC  2340
CAAAGGCTGG CTTCCACCAT CCAGGTGCAC CACTGAAGTG AGGACACACC GGAGCCAGGC  2400
GCCTGCTCAT GTTGAAGTGC GCTGTTCACA CCCGCTCCGG AGAGCACCCC AGCGGCATCC  2460
AGAAGCAGCT GCAGTGTTGC TGCCACCACC CTCCTGCTCG CCTCTTCAAA GTCTCCTGTG  2520
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GGCCAGGTGT GGTGGCTCAC GCCTGTAATC CCAGCACTTT GGGAGGCCGA GGCGGGCGGA  2640
TCACAAAGTC AGGACGAGAC CATCCTGGCT AACACGGTGA AACCCTGTCT CTACTAAAAA  2700
TACAAAAAAA AATTAGCTAG GCGTAGTGGT TGGCACCTAT AGTCCCAGCT ACTCGGAAGG  2760
CTGAAGCAGG AGAATGGTAT GAATCCAGGA GGTGGAGCTT GCAGTGAGCC GAGACCGTGC  2820
CACTGCACTC CAGCCTGGGC AACACAGCGA GACTCCGTCT CGAGGAAAAA AAAAGAAAAG  2880
ACGCGTACCT GCGGTGAGGA AGCTGGGCGC TGTTTTCGAG TTCAGGTGAA TTAGCCTCAA  2940
TCCCCGTGTT CACTTGCTCC CATAGCCCTC TTGATGGATC ACGTAAAACT GAAAGGCAGC  3000
GGGGAGCAGA CAAAGATGAG GTCTACACTG TCCTTCATGG GGATTAAAGC TATGGTTATA  3060
TTAGCACCAA ACTTCTACAA ACCAAGCTCA GGGCCCCAAC CCTAGAAGGG CCCAAATGAG  3120
AGAATGGTAC TTAGGGATGG AAAACGGGGC CTGGCTAGAG CTTCGGGTGT GTGTGTCTGT  3180
CTGTGTGTAT GCATACATAT GTGTGTATAT ATGGTTTTGT CAGGTGTGTA AATTTGCAAA  3240
TTGTTTCCTT TATATATGTA TGTATATATA TATATGAAAA TATATATATA TATGAAAAAT  3300
AAAGCTTAAT TGTCCCAGAA AATCATACAT TGCTTTTTTA TTCTACATGG GTACCACAGG  3360
AACCTGGGGG CCTGTGAAAC TACAACCAAA AGGCACACAA AACCGTTTCC AGTTGGCAGC  3420
AGAGATCAGG GGTTACCTCT GCTTCTGAGC AAATGGCTCA AGCTCTACCA GAGCAGACAG  3480
CTACCCTACT TTTCAGCAGC AAAACGTCCC GTATGACGCA GCACGAAGGG CCTGGCAGGC  3540
TGTTAGCAGG AGCTATGTCC CTTCCTATCG TTTCCGTCCA CTT
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Seq ID NO: 20 Protein sequence:
Protein Accession #: NP_006491

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1          11         21         31         41         51
|          |          |          |          |          |
MGLPRLVCAF LLAACCCCPR VAGVPGEAEQ PAPELVEVEV GSTALLKCGL SQSQGNLSHV    60
DWFSVHKEKR TLIFRVRQGQ GQSEPGEYEQ RLSLQDRGAT LALTQVTPQD ERIFLCQGKR   120
PRSQEYRIQL RVYKAPEEPN IQVNPLGIPV NSKEPEEVAT CVGRNGYPIP QVIWYKNGRP   180
LKEEKNRVHI QSSQTVESSG LYTLQSILKA QLVKEDKDAQ FYCELNYRLP SGNHMKESRE   240
VTVPVFYPTE KVWLEVEPVG MLKEGDRVEI RCLADGNPPP HFSISKQNPS TREAEEETTN   300
DNGVLVLEPA RKEHSGRYEC QAWNLDTMIS LLSEPQELLV NYVSDVRVSP AAPERQEGSS   360
LTLTCEAESS QDLEFQWLRE ETDQVLERGP VLQLHDLKRE AGGGYRCVAS VPSIPGLNRT   420
QLVKLAIFGP PWMAFKERKV WVKENMVLNL SCEASGHPRP TISWNVNGTA SEQDQDPQRV   480
LSTLNVLVTP ELLETGVECT ASNDLGKNTS ILFLELVNLT TLTPDSNTTT GLSTSTASPH   540
TRANSTSTER KLPEPESRGV VIVAVIVCIL VLAVLGAVLY FLYKKGKLPC RRSGKQEITL   600
PPSRKTELVV EVKSDKLPEE MGLLQGSSGD KRAPGDQGEK YIDLRH
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Seq ID NO: 21 Nucleotide sequence:
Nucleic Acid Accession #: NM_002421
Coding sequence: 72..1481 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
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GGGATATTGG AGTAGCAAGA GGCTGGGAAG CCATCACTTA CCTTGCACTG AGAAAGAAGA     60
CAAAGGCCAG TATGCACAGC TTTCCTCCAC TGCTGCTGCT GCTGTTCTGG GGTGTGGTGT    120
CTCACAGCTT CCCAGCGACT CTAGAAACAC AAGAGCAAGA TGTGGACTTA GTCCAGAAAT    180
ACCTGGAAAA ATACTACAAC CTGAAGAATG ATGGGAGGCA AGTTGAAAAG CGGAGAAATA    240
GTGGCCCAGT GGTTGAAAAA TTGAAGCAAA TGCAGGAATT CTTTGGGCTG AAAGTGACTG    300
GGAAACCAGA TGCTGAAACC CTGAAGGTGA TGAAGCAGCC CAGATGTGGA GTGCCTGATG    360
TGGCTCAGTT TGTCCTCACT GAGGGGAACC CTCGCTGGGA GCAAACACAT CTGACCTACA    420
GGATTGAAAA TTACACGCCA GATTTGCCAA GAGCAGATGT GGACCATGCC ATTGAGAAAG    480
CCTTCCAACT CTGGAGTAAT GTCACACCTC TGACATTCAC CAAGGTCTCT GAGGGTCAAG    540
CAGACATCAT GATATCTTTT GTCAGGGGAG ATCATCGGGA CAACTCTCCT TTTGATGGAC    600
CTGGAGGAAA TCTTGCTCAT GCTTTTCAAC CAGGCCCAGG TATTGGAGGG GATGCTCATT    660
TTGATGAAGA TGAAAGGTGG ACCAACAATT TCAGAGAGTA CAACTTACAT CGTGTTGCGG    720
CTCATGAACT CGGCCATTCT CTTGGACTCT CCCATTCTAC TGATATCGGG GCTTTGATGT    780
ACCCTAGCTA CACCTTCAGT GGTGATGTTC AGCTAGCTCA GGATGACATT GATGGCATCC    840
AAGCCATATA TGGACGTTCC CAAAATCCTG TCCAGCCCAT CGGCCCACAA ACCCCAAAAG    900
CGTGTGACAG TAAGCTAACC TTTGATGCTA TAACTACGAT TCGGGGAGAA GTGATGTTCT    960
TTAAAGACAG ATTCTACATG CGCACAAATC CCTTCTACCC GGAAGTTGAG CTCAATTTCA   1020
TTTCTGTTTT CTGGCCACAA CTGCCAAATG GGCTTGAAGC TGCTTACGAA TTTGCCGACA   1080
GAGATGAAGT CCGGTTTTTC AAAGGGAATA AGTACTGGGC TGTTCAGGGA CAGAATGTGC   1140
TACACGGATA CCCCAAGGAC ATCTACAGCT CCTTTGGCTT CCCTAGAACT GTGAAGCATA   1200
TCGATGCTGC TCTTTCTGAG GAAAACACTG GAAAAACCTA CTTCTTTGTT GCTAACAAAT   1260
ACTGGAGGTA TGATGAATAT AAACGATCTA TGGATCCAGG TTATCCCAAA ATGATAGCAC   1320
ATGACTTTCC TGGAATTGGC CACAAAGTTG ATGCAGTTTT CATGAAAGAT GGATTTTTCT   1380
ATTTCTTTCA TGGAACAAGA CAATACAAAT TTGATCCTAA AACGAAGAGA ATTTTGACTC   1440
TCCAGAAAGC TAATAGCTGG TTCAACTGCA GGAAAAATTG AACATTACTA ATTTGAATGG   1500
AAAACACATG GTGTGAGTCC AAAGAAGGTG TTTTCCTGAA GAACTGTCTA TTTTCTCAGT   1560
CATTTTTAAC CTCTAGAGTC ACTGATACAC AGAATATAAT CTTATTTATA CCTCAGTTTG   1620
CATATTTTTT TACTATTTAG AATGTAGCCC TTTTTGTACT GATATAATTT AGTTCCACAA   1680
ATGGTGGGTA CAAAAAGTCA AGTTTGTGGC TTATGGATTC ATATAGGCCA GAGTTGCAAA   1740
GATCTTTTCC AGAGTATGCA ACTCTGACGT TGATCCCAGA GAGCAGCTTC AGTGACAAAC   1800
ATATCCTTTC AAGACAGAAA GAGACAGGAG ACATGAGTCT TTGCCGGAGG AAAAGCAGCT   1860
CAAGAACACA TGTGCAGTCA CTGGTGTCAC CCTGGATAGG CAAGGGATAA CTCTTCTAAC   1920
ACAAAATAAG TGTTTTATGT TTGGAATAAA GTCAACCTTG TTTCTACTGT TTT
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Seq ID NO: 22 Protein sequence:
Protein Accession #: NP_002412

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1          11         21         31         41         51
|          |          |          |          |          |
MHSFPPLLLL LFWGVVSHSF PATLETQEQD VDLVQKYLEK YYNLKNDGRQ VEKRRNSGPV     60
VEKLKQMQEF FGLKVTGKPD AETLKVMKQP RCGVPDVAQF VLTEGNPRWE QTHLTYRIEN    120
YTPDLPRADV DHAIEKAFQL WSNVTPLTFT KVSEGQADIM ISFVRGDHRD NSPFDGPGGN    180
LAHAFQPGPG IGGDAHFDED ERWTNNFREY NLHRVAAHEL GHSLGLSHST DIGALMYPSY    240
TFSGDVQLAQ DDIDGIQAIY GRSQNPVQPI GPQTPKACDS KLTFDAITTI RGEVMFFKDR    300
FYMRTNPFYP EVELNFISVF WPQLPNGLEA AYEFADRDEV RFFKGNKYWA VQGQNVLHGY    360
PKDIYSSFGF PRTVKHIDAA LSEENTGKTY FFVANKYWRY DEYKRSMDPG YPKMIAHDFP    420
GIGHKVDAVF MKDGFFYFFH GTRQYKFDPK TKRILTLQKA NSWFNCRKN
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Seq ID NO: 23 Nucleotide sequence:
Nucleic Acid Accession #: FGENESH predicted ORF
Coding sequence: 141-1580 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
TCTGCGTGTG CCGGGGCTAG GGGCTGGAAG TCCTGGCTCT AGTTGCACCT CGGAAGGAAA     60
AGGCAAACAG AGGAGGGAAG GCGTCTTAGG ACTGCCTGGA TCCAGAGCAC TTTCCTCGGC    120
CTCTACAGGC CTGTGTCGCT ATGGGTTCCC CCGCCGCCCC GGAGGGAGCG CTGGGCTACG    180
TCCGCGAGTT CACTCGCCAC TCCTCCGACG TGCTGGGCAA CCTCAACGAG CTGCGCCTGC    240
GCGGGATCCT CACTGACGTC ACGCTGCTGG TTGGCGGGCA ACCCCTCAGA GCACACAAGG    300
CAGTTCTCAT CGCCTGCAGT GGCTTCTTCT ATTCAATTTT CCGGGGCCGT GCGGGAGTCG    360
GGGTGGACGT GCTCTCTCTG CCCGGGGGTC CCGAAGCGAG AGGCTTCGCC CCTCTATTGG    420
ACTTCATGTA CACTTCGCGC CTGCGCCTCT CTCCAGCCAC TGCACCAGCA GTCCTAGCGG    480
CCGCCACCTA TTTGCAGATG GAGCACGTGG TCCAGGCATG CCACCGCTTC ATCCAGGCCA    540
GCTATGAACC TCTGGGCATC TCCCTGCGCC CCCTGGAAGC AGAACCCCCA ACACCCCCAA    600
CGGCCCCTCC ACCAGGTAGT CCCAGGCGCT CCGAAGGACA CCCAGACCCA CCTACTGAAT    660
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CTCGAAGCTG CAGTCAAGGC CCCCCCAGTC CAGCCAGCCC TGACCCCAAG GCCTGCAACT   720
GGAAAAAGTA CAAGTACATC GTGCTAAACT CTCAGGCCTC CCAAGCAGGG AGCCTGGTCG   780
GGGAGAGAAG TTCTGGTCAA CCTTGCCCCC AAGCCAGGCT CCCCAGTGGA GACGAGGCCT   840
CCAGCAGCAG CAGCAGCAGC AGCAGCAGCA GTGAAGAAGG ACCCATTCCT GGTCCCCAGA   900
GCAGGCTCTC TCCAACTGCT GCCACTGTGC AGTTCAAATG TGGGGCTCCA GCCAGTACCC   960
CCTACCTCCT CACATCCCAG GCTCAAGACA CCTCTGGATC ACCCTCTGAA CGGGCTCGTC  1020
CACTACCGGG AAGTGAATTT TTCAGCTGCC AGAACTGTGA GGCTGTGGCA GGGTGCTCAT  1080
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TACAGGTGGC ACATCTGCGG GCGCACGTGC TGATCCACAC CGGGGAGAAG CCCTACCCTT  1380
GCCCTACCTG CGGAACCCGC TTCCGCCACC TGCAGACCCT CAAGAGCCAC GTTCGCATCC  1440
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CACTTTGGTA TCAGAAATTG CCACCCTCTT AATTTCTCAC TGGGGAGAGC AGGGGTGGCA  1740
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CCTAAGGGAA TAGCCCTCCA CCTGTGGCCC CCATTGCATT CAGTTTATCT GTAAATATAA  1920
TTTATTGAGG CCTTTGGGTG GCACCGGGGC CTTCATTCGA TTGCATTTCC CACTCCCCTC  1980
TTCCACAAGT GTGATTAAAA GTGACCAGAA ACACAGAAGG TGAGATCACA GCTCTGCTGG  2040
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Seq ID NO: 24 Protein sequence:
Protein Accession #: FGENESH predicted

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EHVVQACHRF IQASYEPLGI SLRPLEAEPP TPPTAPPPGS PRRSEGHPDP PTESRSCSQG   180
PPSPASPDPK ACNWKKYKYI VLNSQASQAG SLVGERSSGQ PCPQARLPSG DEASSSSSSS   240
SSSSEEGPIP GPQSRLSPTA ATVQFKCGAP ASTPYLLTSQ AQDTSGSPSE RARPLPGSEF   300
FSCQNCEAVA GCSSGLDSLV PGDEDKPYKC QLCRSSFRYK GNLASHRTVH TGEKPYHCSI   360
CGARFNRPAN LKTHSRIHSG EKPYKCETCG SRFVQVAHLR AHVLIHTGEK PYPCPTCGTR   420
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Seq ID NO: 25 Nucleotide sequence:
Nucleic Acid Accession #: U21551
Coding sequence: 1..1155 (underlined sequences correspond to start and stop codons)

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TCCCTGTGGG CCAATCCCAA GTATGTAAGA GCCTGGAAAG GTGGAACTGG GGACTGCAAG   660
ATGGGAGGGA ATTACGGCTC ATCTCTTTTT GCCCAATGTG AAGACGTAGA TAATGGGTGT   720
CAGCAGGTCC TGTGGCTCTA TGGCAGAGAC CATCAGATCA CTGAAGTGGG AACTATGAAT   780
CTTTTTCTTT ACTGGATAAA TGAAGATGGA GAAGAAGAAC TGGCAACTCC TCCACTAGAT   840
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GAATTTAAGG TGTCAGAGAG ATACCTCACC ATGGATGACT TGACAACAGC CCTGGAGGGG   960
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ATACTGTACA AAGGCGAGAC AATACACATT CCAACTATGG AGAATGGTCC TAAGCTGGCA  1080
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ATTGTGCTAT CCTGA
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Seq ID NO: 26 Protein sequence:
Protein Accession #: AAB08528

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SAVRATLPVF DKEELLECIQ QLVKLDQEWV PYSTSASLYI RPAFIGTEPS LGVKKPTKAL   180
LFVLLSPVGP YFSSGTFNPV SLWANPKYVR AWKGGTGDCK MGGNYGSSLF AQCEDVDNGC   240
QQVLWLYGRD HQITEVGTMN LFLYWINEDG EEELATPPLD GIILPGVTRR CILDLAHQWG   300
EFKVSERYLT MDDLTTALEG NRVREMFSSG TACVVCPVSD ILYKGETIHI PTMENGPKLA   360
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Seq ID NO: 27 Nucleotide sequence:
Nucleic Acid Accession #: XM_039209
Coding sequence: 656..2758 (underlined sequences correspond to start and stop codons)

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AAGAGGGAAC GAAACATGAG AGGCTGTGTG AGAAGCTGCA GCCGCCGGCA GAGGAGACCT   180
CAGCATCATC TAGAGCCCAG CGCTGGCCCT GCCTCCGCCT GCCCCGCCGC CGCCGTCGCC   240
GTTTCTGTTC CTGCTACTGT CCCACCTAAA CAACTCCCGT TACACGGACA AGTGAACATC   300
TGTGGCTGTC CTCTCCTTTT CTTCCTCCTC TTCCAACTCC TTCTCCTCCT CCCACTTCCC   360
AGCCGCAGCA GAAAGCCCCC AACCCAACTG ACACTGGCAC AACTGCAAAC GGTGTCATCC   420
GCACAACTTT ATCTCGCTCC TCGGGCTCCC CTAAGGCATT GGACCCATCG CCGCGTCTTT   480
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CAGTGGCGTT CCCCCCCATC CTCCCGCGCC CAGCCCCTGC TGCTCTGGGC AGACGATGCT   660
GAAGATGCTC TCCTTTAAGC TGCTGCTGCT GGCCGTGGCT CTGGGCTTCT TTGAAGGAGA   720
TGCTAAGTTT GGGGAAAGAA ACGAAGGGAG CGGAGCAAGG AGGAGAAGGT GCCTGAATGG   780
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CGAAGTGTTT GCTCATGGGC TCCACGATCC AGGCAGATGT GCTGTGGATA GACATCCCAC  1980
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TCTTCCTAAA AGGTCTGCTT TTATTGTATA TTTTATTTAA CAATAGGCAC TGGGTTTGTG  3480
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Seq ID NO: 28 Protein sequence:
Protein Accession #: XP_039209

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SLFHSPEREV LERDLVLPLL CKDYCKEFFY TCRGHIPGFL QTTADEFCFY YARKDGGLCF   180
PDFPRKQVRG PASNYLDQME EYDKVEEISR KHKHNCFCIQ EVVSGLRQPV GALHSGDGSQ   240
RLFILEKEGY VKILTPEGEI FKEPYLDIHK LVQSGIKGGD ERGLLSLAFH PNYKKNGKLY   300
VSYTTNQERW AIGPHDHILR VVEYTVSRKN PHQVDLRTAR VFLEVAELHR KHLGGQLLFG   360
PDGFLYIILG DGMITLDDME EMDGLSDFTG SVLRLDVDTD MCNVPYSIPR SNPHFNSTNQ   420
PPEVFAHGLH DPGRCAVDRH PTDININLTI LCSDSNGKNR SSARILQIIK GKDYESEPSL   480
LEFKPFSNGP LVGGFVYRGC QSERLYGSYV FGDRNGNFLT LQQSPVTKQW QEKPLCLGTS   540
GSCRGYFSGH ILGFGEDELG EVYILSSSKS MTQTHNGKLY KIVDPKRPLM PEECRATVQP   600
AQTLTSECSR LCRNGYCTPT GKCCCSPGWE GDFCRTAKCE PACRHGGVCV RPNKCLCKKG   660
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Seq ID NO: 29 Nucleotide sequence:
Nucleic Acid Accession #: NM_024756
Coding sequence: 75..2924 (underlined sequences correspond to start and stop codons)

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Seq ID NO: 30 Protein sequence:
Protein Accession #: NP_079032

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LGDLQNDVHR VADSLPGLWK ALPGNLTAAV MEANQTGHEF PDRSLEQVLL PHVDTFLQVH   240
FSPIWRSFNQ SLHSLTQAIR NLSLDVEANR QAISRVQDSA VARADFQELG AKFEAKVQEN   300
TQRVGQLRQD VEDRLHAQHF TLHRSISELQ ADVDTKLKRL HKAQEAPGTN GSLVLATPGA   360
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Seq ID NO: 31 Nucleotide sequence:
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Coding sequence: 370..3489 (underlined sequences correspond to start and stop codons)

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Seq ID NO: 33 Nucleotide sequence:
Nucleic Acid Accession #: NM_014331
Coding sequence: 1..1506 (underlined sequences correspond to start and stop codons)

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Seq ID NO: 35 Nucleotide sequence:
Nucleic Acid Accession #: NM_002422
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GTTTTTGAAG AATTTGGGTT CTTTTATTTC TTTACTGGAT CTTCACAGTT GGAGTTTGAC  1440
CCAAATGCAA AGAAAGTGAC ACACACTTTG AAGAGTAACA GCTGGCTTAA TTGTTGAAAG  1500
AGATATGTAG AAGGCACAAT ATGGGCACTT TAAATGAAGC TAATAATTCT TCACCTAAGT  1560
CTCTGTGAAT TGAAATGTTC GTTTTCTCCT GCCTGTGCTG TGACTCGAGT CACACTCAAG  1620
GGAACTTGAG CGTGAATCTG TATCTTGCCG GTCATTTTTA TGTTATTACA GGGCATTCAA  1680
ATGGGCTGCT GCTTAGCTTG CACCTTGTCA CATAGAGTGA TCTTTCCCAA GAGAAGGGGA  1740
AGCACTCGTG TGCAACAGAC AAGTGACTGT ATCTGTGTAG ACTATTTGCT TATTTAATAA  1800
AGACGATTTG TCAGTTGTTT T
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Seq ID NO: 36 Protein sequence:
Protein Accession #: NP_002413

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1          11         21         31         41         51
|          |          |          |          |          |
MKSLPILLLL CVAVCSAYPL DGAARGEDTS MNLVQKYLEN YYDLKKDVKQ FVRRKDSGPV    60
VKKIREMQKF LGLEVTGKLD SDTLEVMRKP RCGVPDVGHF RTFPGIPKWR KTHLTYRIVN   120
YTPDLPKDAV DSAVEKALKV WEEVTPLTFS RLYEGEADIM ISFAVREHGD FYPFDGPGNV   180
LAHAYAPGPG INGDAHFDDD EQWTKDTTGT NLFLVAAHEI GHSLGLFHSA NTEALMYPLY   240
HSLTDLTRFR LSQDDINGIQ SLYGPPPDSP ETPLVPTEPV PPEPGTPANC DPALSFDAVS   300
TLRGEILIFK DRHFWRKSLR KLEPELHLIS SFWPSLPSGV DAAYEVTSKD LVFIFKGNQF   360
WAIRGNEVRA GYPRGIHTLG FPPTVRKIDA AISDKEKNKT YFFVEDKYWR FDEKRNSMEP   420
GFPKQIAEDF PGIDSKIDAV FEEFGFFYFF TGSSQLEFDP NAKKVTHTLK SNSWLNC
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Seq ID NO: 37 Nucleotide sequence:
Nucleic Acid Accession #: NM_003246
Coding sequence: 112..3624 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
GGACGCACAG GCATTCCCCG CGCCCCTCCA GCCCTCGCCG CCCTCGCCAC CGCTCCCGGC    60
CGCCGCGCTC CGGTACACAC AGGATCCCTG CTGGGCACCA ACAGCTCCAC CATGGGGCTG   120
GCCTGGGGAC TAGGCGTCCT GTTCCTGATG CATGTGTGTG GCACCAACCG CATTCCAGAG   180
TCTGGCGGAG ACAACAGCGT GTTTGACATC TTTGAACTCA CCGGGGCCGC CCGCAAGGGG   240
TCTGGGCGCC GACTGGTGAA GGGCCCCGAC CCTTCCAGCC CAGCTTTCCG CATCGAGGAT   300
GCCAACCTGA TCCCCCCTGT GCCTGATGAC AAGTTCCAAG ACCTGGTGGA TGCTGTGCGG   360
GCAGAAAAGG GTTTCCTCCT TCTGGCATCC CTGAGGCAGA TGAAGAAGAC CCGGGGCACG   420
CTGCTGGCCC TGGAGCGGAA AGACCACTCT GGCCAGGTCT TCAGCGTGGT GTCCAATGGC   480
AAGGCGGGCA CCCTGGACCT CAGCCTGACC GTCCAAGGAA AGCAGCACGT GGTGTCTGTG   540
GAAGAAGCTC TCCTGGCAAC CGGCCAGTGG AAGAGCATCA CCCTGTTTGT GCAGGAAGAC   600
AGGGCCCAGC TGTACATCGA CTGTGAAAAG ATGGAGAATG CTGAGTTGGA CGTCCCCATC   660
CAAAGCGTCT TCACCAGAGA CCTGGCCAGC ATCGCCAGAC TCCGCATCGC AAAGGGGGGC   720
GTCAATGACA ATTTCCAGGG GGTGCTGCAG AATGTGAGGT TTGTCTTTGG AACCACACCA   780
GAAGACATCC TCAGGAACAA AGGCTGCTCC AGCTCTACCA GTGTCCTCCT CACCCTTGAC   840
AACAACGTGG TGAATGGTTC CAGCCCTGCC ATCCGCACTA ACTACATTGG CCACAAGACA   900
AAGGACTTGC AAGCCATCTG CGGCATCTCC TGTGATGAGC TGTCCAGCAT GGTCCTGGAA   960
CTCAGGGGCC TGCGCACCAT TGTGACCACG CTGCAGGACA GCATCCGCAA AGTGACTGAA  1020
GAGAACAAAG AGTTGGCCAA TGAGCTGAGG CGGCCTCCCC TATGCTATCA CAACGGAGTT  1080
CAGTACAGAA ATAACGAGGA ATGGACTGTT GATAGCTGCA CTGAGTGTCA CTGTCAGAAC  1140
TCAGTTACCA TCTGCAAAAA GGTGTCCTGC CCCATCATGC CCTGCTCCAA TGCCACAGTT  1200
CCTGATGGAG AATGCTGTCC TCGCTGTTGG CCCAGCGACT CTGCGGACGA TGGCTGGTCT  1260
CCATGGTCCG AGTGGACCTC CTGTTCTACG AGCTGTGGCA ATGGAATTCA GCAGCGCGGC  1320
CGCTCCTGCG ATAGCCTCAA CAACCGATGT GAGGGCTCCT CGGTCCAGAC ACGGACCTGC  1380
CACATTCAGG AGTGTGACAA AAGATTTAAA CAGGATGGTG GCTGGAGCCA CTGGTCCCCG  1440
TGGTCATCTT GTTCTGTGAC ATGTGGTGAT GGTGTGATCA CAAGGATCCG GCTCTGCAAC  1500
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TCTCCCAGCC CCCAGATGAA TGGGAAACCC TGTGAAGGCG AAGCGCGGGA GACCAAAGCC  1560
TGCAAGAAAG ACGCCTGCCC CATCAATGGA GGCTGGGGTC CTTGGTCACC ATGGGACATC  1620
TGTTCTGTCA CCTGTGGAGG AGGGGTACAG AAACGTAGTC GTCTCTGCAA CAACCCCGCA  1680
CCCCAGTTTG GAGGCAAGGA CTGCGTTGGT GATGTAACAG AAAACCAGAT CTGCAACAAG  1740
CAGGACTGTC CAATTGATGG ATGCCTGTCC AATCCCTGCT TTGCCGGCGT GAAGTGTACT  1800
AGCTACCCTG ATGGCAGCTG GAAATGTGGT GCTTGTCCCC CTGGTTACAG TGGAAATGGC  1860
ATCCAGTGCA CAGATGTTGA TGAGTGCAAA GAAGTGCCTG ATGCCTGCTT CAACCACAAT  1920
GGAGAGCACC GGTGTGAGAA CACGGACCCC GGCTACAACT GCCTGCCCTG CCCCCCACGC  1980
TTCACCGGCT CACAGCCCTT CGGCCAGGGT GTCGAACATG CCACGGCCAA CAAACAGGTG  2040
TGCAAGCCCC GTAACCCCTG CACGGATGGG ACCCACGACT GCAACAAGAA CGCCAAGTGC  2100
AACTACCTGG GCCACTATAG CGACCCCATG TACCGCTGCG AGTGCAAGCC TGGCTACGCT  2160
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TCAGGGCAGG AAGACTATGA CAAGGATGGA ATTGGTGATG CCTGTGATGA TGACGATGAC  2340
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GACTATGACA GAGATGATGT GGGAGACCGC TGTGACAACT GTCCCTACAA CCACAACCCA  2460
GATCAGGCAG ACACAGACAA CAATGGGGAA GGAGACGCCT GTGCTGCAGA CATTGATGGA  2520
GACGGTATCC TCAATGAACG GGACAACTGC CAGTACGTCT ACAATGTGGA CCAGAGAGAC  2580
ACTGATATGG ATGGGGTTGG AGATCAGTGT GACAATTGCC CCTTGGAACA CAATCCGGAT  2640
CAGCTGGACT CTGACTCAGA CCGCATTGGA GATACCTGTG ACAACAATCA GGATATTGAT  2700
GAAGATGGCC ACCAGAACAA TCTGGACAAC TGTCCCTATG TGCCCAATGC CAACCAGGCT  2760
GACCATGACA AAGATGGCAA GGGAGATGCC TGTGACCACG ATGATGACAA CGATGGCATT  2820
CCTGATGACA AGGACAACTG CAGACTCGTG CCCAATCCCG ACCAGAAGGA CTCTGACGGC  2880
GATGGTCGAG GTGATGCCTG CAAAGATGAT TTTGACCATG ACAGTGTGCC AGACATCGAT  2940
GACATCTGTC CTGAGAATGT TGACATCAGT GAGACCGATT TCCGCCGATT CCAGATGATT  3000
CCTCTGGACC CCAAAGGGAC ATCCCAAAAT GACCCTAACT GGGTTGTACG CCATCAGGGT  3060
AAAGAACTCG TCCAGACTGT CAACTGTGAT CCTGGACTCG CTGTAGGTTA TGATGAGTTT  3120
AATGCTGTGG ACTTCAGTGG CACCTTCTTC ATCAACACCG AAAGGGACGA TGACTATGCT  3180
GGATTTGTCT TTGGCTACCA GTCCAGCAGC CGCTTTTATG TTGTGATGTG GAAGCAAGTC  3240
ACCCAGTCCT ACTGGGACAC CAACCCCACG AGGGCTCAGG GATACTCGGG CCTTTCTGTG  3300
AAAGTTGTAA ACTCCACCAC AGGGCCTGGC GAGCACCTGC GGAACGCCCT GTGGCACACA  3360
GGAAACACCC CTGGCCAGGT GCGCACCCTG TGGCATGACC CTCGTCACAT AGGCTGGAAA  3420
GATTTCACCG CCTACAGATG GCGTCTCAGC CACAGGCCAA AGACGGGTTT CATTAGAGTG  3480
GTGATGTATG AAGGGAAGAA AATCATGGCT GACTCAGGAC CCATCTATGA TAAAACCTAT  3540
GCTGGTGGTA GACTAGGGTT GTTTGTCTTC TCTCAAGAAA TGGTGTTCTT CTCTGACCTG  3600
AAATACGAAT GTAGAGATCC CTAATCATCA AATTGTTGAT TGAAAGACTG ATCATAAACC  3660
AATGCTGGTA TTGCACCTTC TGGAACTATG GGCTTGAGAA AACCCCCAGG ATCACTTCTC  3720
CTTGGCTTCC TTCTTTTCTG TGCTTGCATC AGTGTGGACT CCTAGAACGT GCGACCTGCC  3780
TCAAGAAAAT GCAGTTTTCA AAAACAGACT CATCAGCATT CAGCCTCCAA TGAATAAGAC  3840
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AGTTGGGAAG GTGCCCATTC CACTCTGCCT TTGTCACAGA GCAGGGTGCT ATTGTGAGGC  3960
CATCTCTGAG CAGTGGACTC AAAAGCATTT TCAGGCATGT CAGAGAAGGG AGGACTCACT  4020
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TTACATGTTC GGTACTAAGT CATTTTCAGG GGATTGAAAG ACTATTGCTG GATTTCATGA  4200
TGCTGACTGG CGTTAGCTGA TTAACCCATG TAAATAGGCA CTTAAATAGA AGCAGGAAAG  4260
GGAGACAAAG ACTGGCTTCT GGACTTCCTC CCTGATCCCC ACCCTTACTC ATCACCTTGC  4320
AGTGGCCAGA ATTAGGGAAT CAGAATCAAA CCAGTGTAAG GCAGTGCTGG CTGCCATTGC  4380
CTGGTCACAT TGAAATTGGT GGCTTCATTC TAGATGTAGC TTGTGCAGAT GTAGCAGGAA  4440
AATAGGAAAA CCTACCATCT CAGTGAGCAC CAGCTGCCTC CCAAAGGAGG GGCAGCCGTG  4500
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TTTTAAAGTC TTTACGATGT AAAATATTTA TTTTTTACTT ATTCTGGAAG ATCTGGCTGA  4680
AGGATTATTC ATGGAACAGG AAGAAGCGTA AAGACTATCC ATGTCATCTT TGTTGAGAGT  4740
CTTCGTGACT GTAAGATTGT AAATACAGAT TATTTATTAA CTCTGTTCTG CCTGGAAATT  4800
TAGGCTTCAT ACGGAAAGTG TTTGAGAGCA AGTAGTTGAC ATTTATCAGC AAATCTCTTG  4860
CAAGAACAGC ACAAGGAAAA TCAGTCTAAT AAGCTGCTCT GCCCCTTGTG CTCAGAGTGG  4920
ATGTTATGGG ATTCCTTTTT TCTCTGTTTT ATCTTTTCAA GTGGAATTAG TTGGTTATCC  4980
ATTTGCAAAT GTTTTAAATT GCAAAGAAAG CCATGAGGTC TTCAATACTG TTTTACCCCA  5040
TCCCTTGTGC ATATTTCCAG GGAGAAGGAA AGCATATACA CTTTTTTCTT TCATTTTTCC  5100
AAAAGAGAAA AAAATGACAA AAGGTGAAAC TTACATACAA ATATTACCTC ATTTGTTGTG  5160
TGACTGAGTA AAGAATTTTT GGATCAAGCG GAAAGAGTTT AAGTGTCTAA CAAACTTAAA  5220
GCTACTGTAG TACCTAAAAA GTCAGTGTTG TACATAGCAT AAAAACTCTG CAGAGAAGTA  5280
TTCCCAATAA GGAAATAGCA TTGAAATGTT AAATACAATT TCTGAAAGTT ATGTTTTTTT  5340
TCTATCATCT GGTATACCAT TGCTTTATTT TTATAAATTA TTTTCTCATT GCCATTGGAA  5400
TAGAATATTC AGATTGTGTA GATATGCTAT TTAAATAATT TATCAGGAAA TACTGCCTGT  5460
AGAGTTAGTA TTTCTATTTT TATATAATGT TTGCACACTG AATTGAAGAA TTGTTGGTTT  5520
TTTCTTTTTT TTGTTTTTTT TTTTTTTTTT TTTTTTTTTG CTTTTGACCT CCCATTTTTA  5580
CTATTTGCCA ATACCTTTTT CTAGGAATGT GCTTTTTTTT GTACACATTT TTATCCATTT  5640
TACATTCTAA AGCAGTGTAA GTTGTATATT ACTGTTTCTT ATGTACAAGG AACAACAATA  5700
AATCATATGG AAATTTATAT TT
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Seq ID NO: 38 Protein sequence:
Protein Accession #: NP_003237

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IEDANLIPPV PDDKFQDLVD AVRAEKGFLL LASLRQMKKT RGTLLALERK DHSGQVFSVV  120
SNGKAGTLDL SLTVQGKQHV VSVEEALLAT GQWKSITLFV QEDRAQLYID CEKMENAELD  180
VPIQSVFTRD LASIARLRIA KGGVNDNFQG VLQNVRFVFG TTPEDILRNK GCSSSTSVLL  240
TLDNNVVNGS SPAIRTNYIG HKTKDLQAIC GISCDELSSM VLELRGLRTI VTTLQDSIRK  300
VTEENKELAN ELRRPPLCYH NGVQYRNNEE WTVDSCTECH CQNSVTICKK VSCPIMPCSN  360
ATVPDGECCP RCWPSDSADD GWSPWSEWTS CSTSCGNGIQ QRGRSCDSLN NRCEGSSVQT  420
RTCHIQECDK RFKQDGGWSH WSPWSSCSVT CGDGVITRIR LCNSPSPQMN GKPCEGEARE  480
TKACKKDACP INGGWGPWSP WDICSVTCGG GVQKRSRLCN NPAPQFGGKD CVGDVTENQI  540
CNKQDCPIDG CLSNPCFAGV KCTSYPDGSW KCGACPPGYS GNGIQCTDVD ECKEVPDACF  600
NHNGEHRCEN TDPGYNCLPC PPRFTGSQPF GQGVEHATAN KQVCKPRNPC TDGTHDCNKN  660
AKCNYLGHYS DPMYRCECKP GYAGNGIICG EDTDLDGWPN ENLVCVANAT YHCKKDNCPN  720
LPNSGQEDYD KDGIGDACDD DDDNDKIPDD RDNCPFHYNP AQYDYDRDDV GDRCDNCPYN  780
HNPDQADTDN NGEGDACAAD IDGDGILNER DNCQYVYNVD QRDTDMDGVG DQCDNCPLEH  840
NPDQLDSDSD RIGDTCDNNQ DIDEDGHQNN LDNCPYVPNA NQADHDKDGK GDACDHDDDN  900
DGIPDDKDNC RLVPNPDQKD SDGDGRGDAC KDDFDHDSVP DIDDICPENV DISETDFRRF  960
QMIPLDPKGT SQNDPNWVVR HQGKELVQTV NCDPGLAVGY DEFNAVDFSG TFFINTERDD 1020
DYAGFVFGYQ SSSRFYVVMW KQVTQSYWDT NPTRAQGYSG LSVKVVNSTT GPGEHLRNAL 1080
WHTGNTPGQV RTLWHDPRHI GWKDFTAYRW RLSHRPKTGF IRVVMYEGKK IMADSGPIYD 1140
KTYAGGRLGL FVFSQEMVFF SDLKYECRDP
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Seq ID NO: 39 Nucleotide sequence:
Nucleic Acid Accession #: BC004299
Coding sequence: 69..1235 (underlined sequences correspond to start and stop codons)

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GTGCGGCCAT GGCTTCGCTG CTGGGAGCCT ACCCTTGGCC CGAGGGTCTC GAGTGCCCGG  120
CCCTGGACGC CGAGCTGTCG GATGGACAAT CGCCGCCGGC CGTCCCCCGG CCCCCGGGGG  180
ACAAGGGCTC CGAGAGCCGT ATCCGGCGGC CCATGAACGC CTTCATGGTT TGGGCCAAGG  240
ACGAGAGGAA ACGGCTGGCA GTGCAGAACC CGGACCTGCA CAACGCCGAG CTCAGCAAGA  300
TGCTGGGAAA GTCGTGGAAG GCGCTGACGC TGTCCCAGAA GAGGCCGTAC GTGGACGAGG  360
CGGAGCGGCT GCGCCTGCAG CACATGCAGG ACTACCCCAA CTACAAGTAC CGGCCGCGCA  420
GGAAGAAGCA GGCCAAGCGG CTGTGCAAGC GCGTGGACCC GGGCTTCCTT CTGAGCTCCC  480
TCTCCCGGGA CCAGAACGCC CTGCCGGAGA AGAGAAGCGG CAGCCGGGGG GCGCTGGGGG  540
AGAAGGAGGA CAGGGGTGAG TACTCCCCCG GCACTGCCCT GCCCAGCCTC CGGGGCTGCT  600
ACCACGAGGG GCCGGCTGGT GGTGGCGGCG GCGGCACCCC GAGCAGTGTG GACACGTACC  660
CGTACGGGCT GCCCACACCT CCTGAAATGT CTCCCCTGGA CGTGCTGGAG CCGGAGCAGA  720
CCTTCTTCTC CTCCCCCTGC CAGGAGGAGC ATGGCCATCC CCGCCGCATC CCCCACCTGC  780
CAGGGCACCC GTACTCACCG GAGTACGCCC CAAGCCCTCT CCACTGTAGC CACCCCCTGG  840
GCTCCCTGGC CCTTGGCCAG TCCCCCGGCG TCTCCATGAT GTCCCCTGTA CCCGGCTGTC  900
CCCCATCTCC TGCCTATTAC TCCCCGGCCA CCTACCACCC ACTCCACTCC AACCTCCAAG  960
CCCACCTGGG CCAGCTTTCC CCGCCTCCTG AGCACCCTGG CTTCGACGCC CTGGATCAAC 1020
TGAGCCAGGT GGAACTCCTG GGGGACATGG ATCGCAATGA ATTCGACCAG TATTTGAACA 1080
CTCCTGGCCA CCCAGACTCC GCCACAGGGG CCATGGCCCT CAGTGGGCAT GTTCCGGTCT 1140
CCCAGGTGAC ACCAACGGGT CCCACAGAGA CCAGCCTCAT CTCCGTCCTG GCTGATGCCA 1200
CGGCCACGTA CTACAACAGC TACAGTGTGT CATAGAGCTG GAGGCGCCCC GTCCGGTCAG 1260
CCCTCGCGCC CTCTCCTTCT TGTGCCTTGA GTGGCAGAGG AGCCGTCCAG CCACACCAGC 1320
TTTCCTCCCA CCGCTCAGGG CAGGGAGGTC TGAACTGCGG CCCCAGAGCC TTTGGCCTAA 1380
GCTGGACTCT CCTTATCCGA GTGCCGCCTC TATCCCCTTC CCCACGTTCC AGCCCCTGCA 1440
GCCCACATTT TAAGTATATT CCTTCAAGTG AGTTTTCCTC CAGCCCCTGA GAGTTGCTGT 1500
CTCCCAGTGG AATGTTCACT GACGTCTTTT CTTGGTAGCC ATCATCGAAA CTAATGGGGG 1560
GACAGACTTG ATAGCCAAGG TCCCTTCTGG TCCAGTTTTC TGATTTAGGG TTCTCTCAAG 1620
ATTAATAAAG GAAGATGGGG AAATTTGACT CATTAATGAG CTCGCTAACC TACGATCTGG 1680
TGATAATTTT GTGTGCACAG CCCAAGGACC ACGAGGCTTT CTGCACTTTC TGCACCCCCT 1740
TCCAAAGTGA CCACAAAATT TCAAAGGGAC TCATACAATT TGAGAAAAAA CAGTCAACCT 1800
GATTTGAGAA ATTAACCAGT ATGGCTAACT ATATCACAGA AAATGGGATT GAGTTAAAAC 1860
TATTTTATTT TAAATATACA TTTTAAAGCA GTTCTTTTTT TTTGTTAATT TGTTTATTAT 1920
ACACACACTT CAAGAGCCAC CGCGCCCAGC CTACATTTAT AATTTTCATT CTCTTTTACC 1980
TATAAAATTC AGTGTATTAG TTTCATTACA TAGGAGAAAT TATATTTCTA AACATTTTAT 2040
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Seq ID NO: 40 Protein sequence:
Protein Accession #: AAH04299

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1          11         21         31         41         51
|          |          |          |          |          |
MASLLGAYPW PEGLECPALD AELSDGQSPP AVPRPPGDKG SESRIRRPMN AFMVWAKDER   60
KRLAVQNPDL HNAELSKMLG KSWKALTLSQ KRPYVDEAER LRLQHMQDYP NYKYRPRRKK  120
QAKRLCKRVD PGFLLSSLSR DQNALPEKRS GSRGALGEKE DRGEYSPGTA LPSLRGCYHE  180
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GPAGGGGGGT PSSVDTYPYG LPTPPEMSPL DVLEPEQTFF SSPCQEEHGH PRRIPHLPGH   240
PYSPEYAPSP LHCSHPLGSL ALGQSPGVSM MSPVPGCPPS PAYYSPATYH PLHSNLQAHL   300
GQLSPPPEHP GFDALDQLSQ VELLGDMDRN EFDQYLNTPG HPDSATGAMA LSGHVPVSQV   360
TPTGPTETSL ISVLADATAT YYNSYSVS
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Seq ID NO: 41 Nucleotide sequence:
Nucleic Acid Accession #: NM_004449
Coding sequence: 1..1389 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
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GAGGACCAGT CGTTGTTTGA GTGTGCCTAC GGAACGCCAC ACCTGGCTAA GACAGAGATG   120
ACCGCGTCCT CCTCCAGCGA CTATGGACAG ACTTCCAAGA TGAGCCCACG CGTCCCTCAG   180
CAGGATTGGC TGTCTCAACC CCCAGCCAGG GTCACCATCA AAATGGAATG TAACCCTAGC   240
CAGGTGAATG GCTCAAGGAA CTCTCCTGAT GAATGCAGTG TGGCCAAAGG CGGGAAGATG   300
GTGGGCAGCC CAGACACCGT TGGGATGAAC TACGGCAGCT ACATGGAGGA GAAGCACATG   360
CCACCCCCAA ACATGACCAC GAACGAGCGC AGAGTTATCG TGCCAGCAGA TCCTACGCTA   420
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GACGTCAACA TCTTGTTATT CCAGAACATC GATGGGAAGG AACTGTGCAA GATGACCAAG   540
GACGACTTCC AGAGGCTCAC CCCCAGCTAC AACGCCGACA TCCTTCTCTC ACATCTCCAC   600
TACCTCAGAG AGACTCCTCT TCCACATTTG ACTTCAGATG ATGTTGATAA AGCCTTACAA   660
AACTCTCCAC GGTTAATGCA TGCTAGAAAC ACAGATTTAC CATATGAGCC CCCCAGGAGA   720
TCAGCCTGGA CCGGTCACGG CCACCCCACG CCCCAGTCGA AAGCTGCTCA ACCATCTCCT   780
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CCAACAAGTA GCCGCCTTGC AAATCCAGGC AGTGGCCAGA TCCAGCTTTG GCAGTTCCTC   900
CTGGAGCTCC TGTCGGACAG CTCCAACTCC AGCTGCATCA CCTGGGAAGG CACCAACGGG   960
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CCCAACATGA ACTACGATAA GCTCAGCCGC GCCCTCCGTT ACTACTATGA CAAGAACATC  1080
ATGACCAAGG TCCATGGGAA GCGCTACGCC TACAAGTTCG ACTTCCACGG GATCGCCCAG  1140
GCCCTCCAGC CCCACCCCCC GGAGTCATCT CTGTACAAGT ACCCCTCAGA CCTCCCGTAC  1200
ATGGGCTCCT ATCACGCCCA CCCACAGAAG ATGAACTTTG TGGCGCCCCA CCCTCCAGCC  1260
CTCCCCGTGA CATCTTCCAG TTTTTTTGCT GCCCCAAACC CATACTGGAA TTCACCAACT  1320
GGGGGTATAT ACCCCAACAC TAGGCTCCCC ACCAGCCATA TGCCTTCTCA TCTGGGCACT  1380
TACTACTAA
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Seq ID NO: 42 Protein sequence:
Protein Accession #: NP_004440

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1          11         21         31         41         51
|          |          |          |          |          |
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QDWLSQPPAR VTIKMECNPS QVNGSRNSPD ECSVAKGGKM VGSPDTVGMN YGSYMEEKHM   120
PPPNMTTNER RVIVPADPTL WSTDHVRQWL EWAVKEYGLP DVNILLFQNI DGKELCKMTK   180
DDFQRLTPSY NADILLSHLH YLRETPLPHL TSDDVDKALQ NSPRLMHARN TDLPYEPPRR   240
SAWTGHGHPT PQSKAAQPSP STVPKTEDQR PQLDPYQILG PTSSRLANPG SGQIQLWQFL   300
LELLSDSSNS SCITWEGTNG EFKMTDPDEV ARRWGERKSK PNMNYDKLSR ALRYYYDKNI   360
MTKVHGKRYA YKFDFHGIAQ ALQPHPPESS LYKYPSDLPY MGSYHAHPQK MNFVAPHPPA   420
LPVTSSSFFA APNPYWNSPT GGIYPNTRLP TSHMPSHLGT YY
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Seq ID NO: 43 Nucleotide sequence:
Nucleic Acid Accession #: NM_005100
Coding sequence: 192..5537 (underlined sequences correspond to start and stop codons)

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CAGTCGGCTG GCGGCGAAGG AAGGCGCTCT CGGGACCTCA CGGGCGCGCG TCTTTTGGCT   120
CTTGCCCCTG TCCCTGCGGC TTGGGGAAAG CGTAACCCGG CGGCTAGGCG CGGGAGAAGT   180
GCGGAGGAGC CATGGGCGCC GGGAGCTCCA CCGAGCAGCG CAGCCCGGAG CAGCCGCCCG   240
AGGGGAGCTC CACGCCGGCT GAGCCCGAGC CCAGCGGCGG CGGCCCCTCG GCCGAGGCGG   300
CGCCAGACAC CACCGCGGAC CCCGCCATCG CTGCCTCGGA CCCCGCCACC AAGCTCCTAC   360
AGAAGAATGG TCAGCTGTCC ACCATCAATG GCGTAGCTGA GCAAGATGAG CTCAGCCTCC   420
AGGAGGGTGA CCTAAATGGC CAGAAAGGAG CCCTGAACGG TCAAGGAGCC CTAAACAGCC   480
AGGAGGAAGA AGAAGTCATT GTCACGGAGG TTGGACAGAG AGACTCTGAA GATGTGAGCG   540
AAAGAGACTC CGATAAAGAG ATGGCTACTA AGTCAGCGGT TGTTCACGAC ATCACAGATG   600
ATGGGCAGGA GGAGAACCGA AATATCGAAC AGATTCCTTC TTCAGAAAGC AATTTAGAAG   660
AGCTAACACA ACCCACTGAG TCCCAGGCTA ATGATATTGG ATTTAAGAAG GTGTTTAAGT   720
TTGTTGGCTT TAAATTCACT GTGAAAAAGG ATAAGACAGA GAAGCCTGAC ACTGTCCAGC   780
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TACTCACTGT GAAGAAAGAT GAAGGGGAGG GAGCAGCAGG GGCTGGCGAC CACCAGGACC   840
CCAGCCTTGG GGCTGGAGAA GCAGCATCCA AAGAAAGCGA ACCCAAACAA TCTACAGAGA   900
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CACAGGAGCC GGCAGAAAGT GCCCACGAGC CCCGGTTATC AGCTGAATAT GAGAAAGTTG  1320
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AGGAAATGTG CAGGATACTA CATGCTTTTT GTATCACACA GTATATGATG GGGCATGTGC  6000
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AAAAGCATTT TGAAACATAC AGAATGTTCT ATTGTCATTG GGAAATTTTG CTTTCTAACC  6240
CAGTGGAGGT TAGAAAGAAG TTATATTCTG GTAGCAAATT AACTTTACAT CCTTTTTCCT  6300
ACTTGTTATG GTTGTTTGGA CCGATAAGTG TGCTTAATCC TGAGGCAAAG TAGTGAATAT  6360
GTTTTATATG TTATGAAGAA AAGAATTGTT GTAAGTTTTT GATTCTACTC TTATATGCTG  6420
GACTGCATTC ACACATGGCA TGAAATAAGT CAGGTTCTTT ACAAATGGTA TTTTGATAGA  6480
TACTGGATTG TGTTTGTGCC ATATTTGTGC CATTCCTTTA AGAACAATGT TGCAACACAT  6540
TCATTTGGAT AAGTTGTGAT TTGACGACTG ATTTAAATAA AATATTTGCT TCACTTAAAA  6600
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Seq ID NO: 44 <u>Protein sequence:</u>

Protein Accession #: NP_005091

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QLSTINGVAE QDELSLQEGD LNGQKGALNG QGALNSQEEE EVIVTEVGQR DSEDVSERDS   120
DKEMATKSAV VHDITDDGQE ENRNIEQIPS SESNLEELTQ PTESQANDIG FKKVFKFVGF   180
KFTVKKDKTE KPDTVQLLTV KKDEGEGAAG AGDHQDPSLG AGEAASKESE PKQSTEKPEE   240
TLKREQSHAE ISPPAESGQA VEECKEEGEE KQEKEPSKSA ESPTSPVTSE TGSTFKKFFT   300
QGWAGWRKKT SFRKPKEDEV EASEKKKEQE PEKVDTEEDG KAEVASEKLT ASEQAHPQEP   360
AESAHEPRLS AEYEKVELPS EEQVSGSQGP SEEKPAPLAT EVFDEKIEVH QEEVVAEVHV   420
STVEERTEEQ KTEVEETAGS VPAEELVGMD AEPQEAEPAK ELVKLKETCV SGEDPTQGAD   480
LSPDEKVLSK PPEGVVSEVE MLSSQERMKV QGSPLKKLFT STGLKKLSGK KQKGKRGGGD   540
EESGEHTQVP ADSPDSQEEQ KGESSASSPE EPEEITCLEK GLAEVQQDGE AEEGATSDGE   600
KKREGVTPWA SFKKMVTPKK RVRRPSESDK EDELDKVKSA TLSSTESTAS EMQEEMKGSV   660
EEPKPEEPKR KVDTSVSWEA LICVGSSKKR ARRRSSSDEE GGPKAMGGDH QKADEAGKDK   720
ETGTDGILAG SQEHDPGQGS SSPEQAGSPT EGEGVSTWES FKRLVTPRKK SKSKLEEKSE   780
DSIAGSGVEH STPDTEPGKE ESWVSIKKFI PGRRKKRPDG KQEQAPVEDA GPTGANEDDS   840
DVPAVVPLSE YDAVEREKME AQQAQKGAEQ PEQKAATEVS KELSESQVHM MAAAVADGTR   900
AATIIEERSP SWISASVTEP LEQVEAEAAL LTEEVLEREV IAEEEPPTVT EPLPENREAR   960
GDTVVSEAEL TPEAVTAAET AGPLGSEEGT EASAAEETTE MVSAVSQLTD SPDTTEEATP  1020
VQEVEGGVPD IEEQERRTQE VLQAVAEKVK EESQLPGTGG PEDVLQPVQR AEAERPEEQA  1080
EASGLKKETD VVLKVDAQEA KTEPFTQGKV VGQTTPESFE KAPQVTESIE SSELVTTCQA  1140
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SGTQSGGTEA EAVPAQKERP PAPSSFVFQE ETKEQSKMED TLEHTDKEVS VETVSILSKT  1260
EGTQEADQYA DEKTKDVPFF EGLEGSIDTG ITVSREKVTE VALKGEGTEE AECKKDDALE  1320
LQSHAKSPPS PVEREMVVQV EREKTEAEPT HVNEEKLEHE TAVTVSEEVS KQLLQTVNVP  1380
IIDGAKEVSS LEGSPPPCLG QEEAVCTKIQ VQSSEASFTL TAAAEEEKVL GETANILETG  1440
ETLEPAGAHL VLEEKSSEKN EDFAAHPGED AVPTGPDCQA KSTPVIVSAT TKKGLSSDLE  1500
GEKTTSLKWK SDEVDEQVAC QEVKVSVAIE DLEPENGILE LETKSSKLVQ NIIQTAVDQF  1560
VRTEETATEM LTSELQTQAH VIKADSQDAG QETEKEGEEP QASAQDETPI TSAKEESEST  1620
AVGQAHSDIS KDMSEASEKT MTVEVEGSTV NDQQLEEVVL PSEEEGGGAG TKSVPEDDGH  1680
ALLAERIEKS LVEPKEDEKG DDVDDPENQN SALADTDASG GLTKESPDTN GPKQKEKEDA  1740
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Seq ID NO: 45 <u>Nucleotide sequence:</u>

Nucleic Acid Accession #: NM_001290

Coding sequence: 110..1231(underlined sequences correspond to start and stop codons)

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ACCACATGAC CCCTTCTATT CTTCTCCTTT CGGCCCATTT TATAGGAGGC ATACACCATA   180
CATGGTACAG CCAGAGTACC GAATCTATGA GATGAACAAG AGACTGCAGT CTCGCACAGA   240
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ATTAACCCTT TCATTTTGTT TGGAAGATGG ACCAAAGCGA TACACTATCG GCAGGACCCT   360
CATCCCCCGT TACTTTAGCA CTGTGTTTGA AGGAGGGGTG ACCGACCTGT ATTACATTCT   420
CAAACACTCG AAAGAGTCAT ACCACAACTC ATCCATCACG GTGGACTGCG ACCAGTGTAC   480
CATGGTCACC CAGCACGGGA AGCCCATGTT TACCAAGGTA TGTACAGAAG GCAGACTGAT   540
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CTTGGAGTTC ACCTTTGATG ATCTCATGAG AATCAAAACA TGGCACTTTA CCATTAGACA   600
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GGATCAGCTG TCCAAAAACA TCACCAGGAT GGGGCTAACA AACTTCACCC TCAACTACCT   720
CAGGTTGTGT GTAATATTGG AGCCAATGCA GGAACTGATG TCGAGACATA AAACTTACAA   780
CCTCAGTCCC CGAGACTGCC TGAAGACCTG CTTGTTTCAG AAGTGGCAGA GGATGGTGGC   840
TCCGCCAGCA GAACCCACAA GGCAACCAAC AACCAAACGG AGAAAAAGGA AAAATTCCAC   900
CAGCAGCACT TCCAACAGCA GCGCTGGGAA CAATGCAAAC AGCACTGGCA GCAAGAAGAA   960
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AAACACGCAA TATGATGCGG CCAACGGCAT GGACGACGAG GAGGACTTCA ACAATTCACC  1140
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TATGTTCCTC CACACATGTA AAGGCACAGT GGCTCCGTGT GTTAAAAAAC AGCTGTATTT  2280
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Seq ID NO: 46 Protein sequence:
Protein Accession #: NP_001281

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DDATLTLSFC LEDGPKRYTI GRTLIPRYFS TVFEGGVTDL YYILKHSKES YHNSSITVDC   120
DQCTMVTQHG KPMFTKVCTE GRLILEFTFD DLMRIKTWHF TIRQYRELVP RSILAMHAQD   180
PQVLDQLSKN ITRMGLTNFT LNYLRLCVIL EPMQELMSRH KTYNLSPRDC LKTCLFQKWQ   240
RMVAPPAEPT RQPTTKRRKR KNSTSSTSNS SAGNNANSTG SKKKTTAANL SLSSQVPDVM   300
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Seq ID NO: 47 Nucleotide sequence:
Nucleic Acid Accession #: NM_004126
Coding sequence: 108..329 (underlined sequences correspond to start and stop codons)

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AAGTGAAGTT GCAGAGACAA CAAGTGTCTA AATGTTCTGA AGAAATAAAG AACTATATTG   240
AAGAACGTTC TGGAGAGGAT CCTCTAGTAA AGGGAATTCC AGAAGACAAG AACCCCTTTA   300
AAGAAAAAGG CAGCTGTGTT ATTTCATAAA TAACTTGGGA GAAACTGCAT CCTAAGTGGA   360
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TGAAATTAAA AGGAGACTTT CTTAAGCACC ATATAGATAG GGTTATGTAT AAAAGCATAT   480
GTGCTACTCA TCTTTGCTCA CTATGCAGTC TTTTTTAAGA GAGCAGAGAG TATCAGATGT   540
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GCTTCAAATA AAGTTTTGTC TT
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Seq ID NO: 48 Protein sequence:
Protein Accession #: NP_004117

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|          |          |          |          |          |
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KNPFKEKGSC VIS
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Seq ID NO: 49 Nucleotide sequence:
Nucleic Acid Accession #: XM_051896
Coding sequence: 139..2388 (underlined sequences correspond to start and stop codons)

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ATGCTTGATA CTCCAGATCC CTATGTGGAA CTTTTTATCT CTACAACCCC TGACAGCAGG  240
AAGAGAACAA GACATTTCAA TAATGACATA AACCCTGTGT GGAATGAGAC CTTTGAATTT  300
ATTTTGGATC CTAATCAGGA AAATGTTTTG GAGATTACGT TAATGGATGC CAATTATGTC  360
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CAGTTTCTGA TGCTGAGGCA GTTTGCAATC CCATGACAAC TGGATTTAAA AGTACAGTAC 2400
AGATAGTCGT ACTGATCATG AGAGACTGGC TGATACTCAA AGTTGCAGTT ACTTAGCTGC 2460
ATGAGAATAA TACTATTATA AGTTAGGTTG ACAAATGATG TTGATTATGT AAGGATATAC 2520
TTAGCTACAT TTTCAGTCAG TATGAACTTC CTGATACAAA TGTAGGGATA TATACTGTAT 2580
TTTTAAACAT TTCTCACCAA CTTTCTTATG TGTGTTCTTT TTAAAAATTT TTTTTCTTTT 2640
AAAATATTTA ACAGTTCAAT CTCAATAAGA CCTCGCATTA TGTATGAATG TTATTCACTG 2700
ACTAGATTTA TTCATACCAT GAGACAACAC TATTTTTATT TATATATGCA TATATATACA 2760
TACATGAAAT AAATACATCA ATATAAAAAT
```

Seq ID NO: 50 Protein sequence:
Protein Accession #: XP_051896

```
1          11         21         31         41         51
|          |          |          |          |          |
MSFIDPYQHI IVEHQYSHKF TVVVLRATKV TKGAFGDMLD TPDPYVELFI STTPDSRKRT   60
RHFNNDINPV WNETFEFILD PNQENVLEIT LMDANYVMDE TLGTATFTVS SMKVGEKKEV  120
PFIFNQVTEM VLEMSLEVCS CPDLRFSMAL CDQEKTFRQQ RKEHIRESMK KLLGPKNSEG  180
LHSARDVPVV AILGSGGGFR AMVGFSGVMK ALYESGILDC ATYVAGLSGS TWYMSTLYSH  240
PDFPEKGPEE INEELMKNVS HNPLLLLTPQ KVKRYVESLW KKKSSGQPVT FTDIFGMLIG  300
ETLIHNRMNT TLSSLKEKVN TAQCPLPLFT CLHVKPDVSE LMFADWVEFS PYEIGMAKYG  360
TFMAPDLFGS KFFMGTVVKK YEENPLHFLM GVWGSAFSIL FNRVLGVSGS QSRGSTMEEE  420
LENITTKHIV SNDSSDSDDE SHEPKGTENE DAGSDYQSDN QASWIHRMIM ALVSDSALFN  480
TREGRAGKVH NFMLGLNLNT SYPLSPLSDF ATQDSFDDDE LDAAVADPDE FERIYEPLDV  540
KSKKIHVVDS GLTFNLPYPL ILRPQRGVDL IISFDFSARP SDSSPPFKEL LLAEKWAKMN  600
KLPFPKIDPY VFDREGLKEC YVFKPKNPDM EKDCPTIIHF VLANINFRKY KAPGVPRETE  660
EEKEIADFDI FDDPESPFST FNFQYPNQAF KRLHDLMHFN TLNNIDVIKE AMVESIEYRR  720
QNPSRCSVSL SNVEARRFFN KEFLSKPKA
```

Seq ID NO: 51 Nucleotide sequence:
Nucleic Acid Accession #: NM_006528
Coding sequence: 57..764 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
GCCGCCAGCG GCTTTCTCGG ACGCCTTGCC CAGCGGGCCG CCCGACCCCC TGCACCATGG     60
ACCCCGCTCG CCCCCTGGGG CTGTCGATTC TGCTGCTTTT CCTGACGGAG GCTGCACTGG    120
GCGATGCTGC TCAGGAGCCA ACAGGAAATA ACGCGGAGAT CTGTCTCCTG CCCCTAGACT    180
ACGGACCCTG CCGGGCCCTA CTTCTCCGTT ACTACTACGA CAGGTACACG CAGAGCTGCC    240
GCCAGTTCCT GTACGGGGGC TGCGAGGGCA ACGCCAACAA TTTCTACACC TGGGAGGCTT    300
GCGACGATGC TTGCTGGAGG ATAGAAAAAG TTCCCAAAGT TTGCCGGCTG CAAGTGAGTG    360
TGGACGACCA GTGTGAGGGG TCCACAGAAA AGTATTTCTT TAATCTAAGT TCCATGACAT    420
GTGAAAAATT CTTTTCCGGT GGGTGTCACC GGAACCGGAT TGAGAACAGG TTTCCAGATG    480
AAGCTACTTG TATGGGCTTC TGCGCACCAA AGAAAATTCC ATCATTTTGC TACAGTCCAA    540
AAGATGAGGG ACTGTGCTCT GCCAATGTGA CTCGCTATTA TTTTAATCCA AGATACAGAA    600
CCTGTGATGC TTTCACCTAT ACTGGCTGTG GAGGGAATGA CAATAACTTT GTTAGCAGGG    660
AGGATTGCAA ACGTGCATGT GCAAAAGCTT TGAAAAAGAA AAAGAAGATG CCAAAGCTTC    720
GCTTTGCCAG TAGAATCCGG AAAATTCGGA AGAAGCAATT TTAAACATTC TTAATATGTC    780
ATCTTGTTTG TCTTTATGGC TTATTTGCCT TTATGGTTGT ATCTGAAGAA TAATATGACA    840
GCATGAGGAA ACAAATCATT GGTGATTTAT TCACCAGTTT TTATTAATAC AAGTCACTTT    900
TTCAAAAATT TGGATTTTTT TATATATAAC TAGCTGCTAT TCAAATGTGA GTCTACCATT    960
TTTAATTTAT GGTTCAACTG TTTGTGAGAC GAATTCTTGC AATGCATAAG ATATAAAAGC   1020
AAATATGACT CACTCATTTC TTGGGGTCGT ATTCCTGATT TCAGAAGAGG ATCATAACTG   1080
AAACAACATA AGACAATATA ATCATGTGCT TTTAACATAT TTGAGAATAA AAAGGACTAG   1140
CC
```

Seq ID NO: 52 Protein sequence:
Protein Accession #: NP_006519

```
1          11         21         31         41         51
|          |          |          |          |          |
MDPARPLGLS ILLLFLTEAA LGDAAQEPTG NNAEICLLPL DYGPCRALLL RYYYDRYTQS     60
CRQFLYGGCE GNANNFYTWE ACDDACWRIE KVPKVCRLQV SVDDQCEGST EKYFFNLSSM    120
TCEKFFSGGC HRNRIENRFP DEATCMGFCA PKKIPSFCYS PKDEGLCSAN VTRYYFNPRY    180
RTCDAFTYTG CGGNDNNFVS REDCKRACAK ALKKKKKMPK LRFASRIRKI RKKQF
```

Seq ID NO: 53 Nucleotide sequence:
Nucleic Acid Accession #: AA478778
Coding sequence: no ORF found

```
1          11         21         31         41         51
|          |          |          |          |          |
TATTTTTGTA CGTAAAATGA TTCTATTATG ACTGCCTTTG CATGTAGTAA TATGACAAAG     60
TGATCCTTCA TTATCACGGT ACACTATTGT TTACTTTTCA TCTGTAAATG TTTTATTGTT    120
ACTTTTTTAA AATGAATTTT TTTAAAACAA TCTAGCCATC ATCAAGGTGC TATAAGAGTT    180
GTATAAAAGA TATTTTTGGC ATTTCTAGGC AAGTATCAGC CAATAAGTAT GTTAGTGATA    240
TCACAGATTG TACCAACTAT TAACTATGTT AAATAAGTAT TCAGTTTCAT GTGATCTCTG    300
GGAAAAAAAT ATGCTGCCTT GGTGCTAATA TTGTATGTAT TTAAATGATC ATCTGACTCA    360
GAAATATAAA CACTTTTAAT GAAAGGGAGG AACGGAAGGA CAATTTCCAG TGCACAGAAT    420
CACTTGGATG AAATAAGACC AGCTCTTTAC CCTTATTTTT GGATATGCCT TTTTTGGAAG    480
AGACTTAGAC TTTATCCTTA TTGTTGTTAG TGTTGTTAAT ATTCGTTGCT TCAGCCCACG    540
GTGCCTTGGT CTCTCCACAA TCAAATGGAG GATCCCCCAA GCAGCTTCAT TACAGAGTGA    600
TATTGGGAAA GTGAGATCCT CTCACCATTT TGCCAAGATA CTCTAAAATG ACATCCAAGT    660
TTACCAGTAG AAAGACACAG GATGCACAGA ATGGGCATGA CCTTCAGCTC ACGAGCACAC    720
CTGGAGAAAT TCAGAACCAG GTTCTGAATC ATCACGATTG CCTTTTGCAT GAAAACATCG    780
GCTGGTGATG TGACTTCTCT TCAGGCCATG AGCCTAACAY CCTGCCGGTT TTCATGCCCG    840
CTGCAGTAAT GGACGTTTGT GTGAAGAAAT GAACTGTGGA GTACAAAATG CTTTGAGTCT    900
TTCCGATTGC TCATTAATTC ACTTTTTTGT TACTTCTTTC CAAAATGGAA GTGCTGAAGC    960
CATGGTCTTT CTGCCCCTCC AAGCTGATGA AGGGAAGCCT TTGCCAATGG CCCATGGAAG   1020
ACACTTGGTT TGAGAAACCC TGCCCACTTC CAAAGACCAA AGAGATTAGG AAAAGCCTGG   1080
CAGTATTCTC CAACTCCAAA CAAGCTCTAG AGTGCTCCAG GAAAAGTTAT ATTCAGTATA   1140
TGAATAAGTG TTATTCTCCA TTATTAATGT GTTCTGAAAA TATATTATGA ATAAATACAT   1200
CACCACACCC AAAAAAAAAA AAAAAAAAAA AAAA
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Seq ID NO: 54 Nucleotide sequence:
Nucleic Acid Accession #: NM_020663
Coding sequence: 1..645 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
ATGAACTGCA AAGAGGGAAC TGACAGCAGC TGCGGCTGCA GGGGCAACGA CGAGAAGAAG     60
ATGTTGAAGT GTGTGGTGGT GGGGGACGGT GCCGTGGGGA AAACCTGCCT GCTGATGAGC    120
TACGCCAACG ACGCCTTCCC AGAGGAATAC GTGCCCACTG TGTTTGACCA CTATGCAGTT    180
ACTGTGACTG TGGGAGGCAA GCAACACTTG CTCGGACTGT ATGACACCGC GGGACAGGAG    240
GACTACAACC AGCTGAGGCC ACTCTCCTAC CCCAACACGG ATGTGTTTTT GATCTGCTTC    300
```

```
TCTGTCGTAA ACCCTGCCTC TTACCACAAT GTCCAGGAGG AATGGGTCCC CGAGCTCAAG   360
GACTGCATGC CTCACGTGCC TTATGTCCTC ATAGGGACCC AGATTGATCT CCGTGATGAC   420
CCAAAAACCT TGGCCCGTTT GCTGTATATG AAAGAGAAAC CTCTCACTTA CGAGCATGGT   480
GTGAAGCTCG CAAAAGCGAT CGGAGCACAG TGCTACTTGG AATGTTCAGC TCTGACTCAG   540
AAAGGTCTCA AAGCGGTTTT TGATGAAGCA ATCCTCACCA TTTTCCACCC CAAGAAAAAG   600
AAGAAACGCT GTTCTGAGGG TCACAGCTGC TGTTCAATTA TCTGA
```

Seq ID NO: 55 <u>Protein sequence:</u>
Protein Accession #: NP_065714

```
1          11         21         31         41         51
|          |          |          |          |          |
MNCKEGTDSS CGCRGNDEKK MLKCVVVGDG AVGKTCLLMS YANDAFPEEY VPTVFDHYAV    60
TVTVGGKQHL LGLYDTAGQE DYNQLRPLSY PNTDVFLICF SVVNPASYHN VQEEWVPELK   120
DCMPHVPYVL IGTQIDLRDD PKTLARLLYM KEKPLTYEHG VKLAKAIGAQ CYLECSALTQ   180
KGLKAVFDEA ILTIFHPKKK KKRCSEGHSC CSII
```

Seq ID NO: 56 <u>Nucleotide sequence:</u>
Nucleic Acid Accession #: fgenesh prediction
Coding sequence: 1-546 (underlined sequences correspond to start and stop codons)

```
1          11         21         31         41         51
|          |          |          |          |          |
ATGGCCTTGG GCAGCTCCGC CCCTGTGGCT TTGCAGGGTA ATGCCCACTT CCCTGCTGCT    60
TTCATGGCTG GCATTAAGTG TCTGTGGCTT TTCCAGGTAG TCCCCCTGGG GCTCCCCGAG   120
TTGGTGCAAA GGCTCCTGGG TGGAGCTCGA ACTGAAACTC GCTTTGTGCC CGCAGCCCTG   180
CAGCTCGCCG GTGCCCTCGA CCTGCCCGCT GGGTCCTGTG CCTTTGAAGA GAGCACTTGC   240
GGCTTTGACT CCGTGTTGGC CTCTCTGCCG TGGATTTTAA ATGAGGAAGG CCAGCAACCT   300
TTCTGGTCCT CAGGAGACAT GTCTGACTGG GACTACTGGG TTGGCTGGCG GAAGTTAATT   360
CATTCTCCTC TGAGCACTCC AGGGTGGAGC AGGCAGGTTA GGCTCCAGTT GTTCCAGCTT   420
CAGTTTGTCA AAGGCCAGAA CTTGGACGTA ACAGTGTACT GCAGGCTCCA GGGCAGTGAG   480
AAACCCTTTG AAACTGGTTC CATGGTTCCA TTCACCTTCA TGTACTGGAT CCACCATGGA   540
AAGTAG
```

Seq ID NO: 57 <u>Protein sequence:</u>
Protein Accession #: fgenesh prediction

```
1          11         21         31         41         51
|          |          |          |          |          |
MALGSSAPVA LQGNAHFPAA FMAGIKCLWL FQVVPLGLPE LVQRLLGGAR TETRFVPAAL    60
QLAGALDLPA GSCAFEESTC GFDSVLASLP WILNEEGQQP FWSSGDMSDW DYWVGWRKLI   120
HSPLSTPGWS RQVRLQLFQL QFVKGQNLDV TVYCRLQGSE KPFETGSMVP FTFMYWIHHG   180
K
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Seq ID NO: 58 <u>Nucleotide sequence:</u>
Nucleic Acid Accession #: XM_050478
Coding sequence: 27..4508 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
CCGGCGGCGC CTGAGCCCAG CCGAGGATGG AGAACCGGCC TGGGTCCTTC CAGTACGTCC    60
CTGTGCAGCT GCAAGGGGGG GCACCCTGGG GCTTCACCCT TAAGGGGGGT CTGGAACACT   120
GTGAGCCGCT CACAGTGTCT AAGATTGAAG ATGGAGGCAA GGCAGCTTTG TCCCAGAAGA   180
TGAGGACTGG TGATGAGCTG GTGAATATCA ATGGCACTCC ATTATATGGC TCCCGCCAAG   240
AGGCCCTCAT TCTCATCAAA GGCTCCTTCC GGATTCTCAA GCTGATTGTC AGGAGGAGGA   300
ACGCCCCTGT CAGTAGGCCG CACTCATGGC ATGTGGCCAA GCTGCTGGAG GGATGCCCTG   360
AAGCAGCCAC CACCATGCAT TTCCCTTCTG AAGCCTTCAG CTTGTCCTGG CATTCTGGCT   420
GCAACACAAG TGACGTGTGT GTGCAGTGGT GTCCACTCTC CCGGCATTGC AGCACCGAGA   480
AAAGCAGCTC CATTGGCAGC ATGGAGAGCC TGGAGCAACC AGGCCAAGCC ACCTATGAGA   540
GCCATCTGTT GCCTATTGAC CAGAACATGT ACCCTAACCA GCGTGACTCA GCCTACAGCT   600
CCTTCTCGGC CAGCTCAAAT GCTTCTGACT GTGCCCTTTC CCTCAGGCCA GAGGAGCCAG   660
CCTCTACAGA CTGCATCATG CAAGGCCCAG GGCCAACTAA GGCCCCCAGT GGCCGGCCTA   720
ATGTGGCTGA GACCTCAGGA GGTAGTCGGC GCACCAATGG GGGCCACCTG ACCCCCAGCT   780
CTCAGATGTC ATCCCGTCCA CAGGAGGGAT ACCAGTCAGG GCCCGCCAAA GCAGTCAGGG   840
GCCCACCACA ACCTCCAGTG AGGCGGGACA GCCTTCAGGC CTCCAGAGCC CAACTCCTCA   900
ATGGAGAGCA GCGCAGGGCA TCTGAGCCTG TGGTCCCCTT GCCACAGAAG GAGAAACTGA   960
GCTTAGAGCC TGTGCTACCC GCAAGGAACC CTAATAGGTT CTGTTGCCTC AGTGGGCATG  1020
ACCAAGTGAC AAGTGAGGGC CATCAGAACT GTGAGTTCAG TCAGCCTCCT GAATCCAGCC  1080
AACAGGGCTC TGAGCATCTA CTGATGCAGG CCTCAACCAA AGCTGTTGGA TCCCCAAAAG  1140
CCTGTGACAG AGCTTCCAGC GTGGATTCCA ACCCACTCAA TGAGGCTTCT GCAGAGCTAG  1200
CTAAGGCTTC TTTTGGCAGA CCTCCACATC TCATAGGACC CACAGGGCAT CGCCATAGTG  1260
CCCCTGAACA GCTGCTGGCA TCCCACCTGC AGCATGTGCA CCTTGATACC AGGGGCAGCA  1320
AAGGGATGGA GCTCCCACCC GTACAGGATG GGCACCAGTG GACTCTGTCC CCTTTGCACA  1380
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GCAGCCACAA AGGGAAGAAA AGTCCATGCC CCCCTACAGG AGGAACCCAT GACCAGTCCA  1440
GCAAAGAAAG AAAGACCAGA CAAGTGGATG ACAGGTCTTT AGTTTTGGGA CACCAGAGCC  1500
AAAGCAGTCC CCCACATGGA GAGGCTGATG GACACCCCTC AGAAAAAGGT TTCCTGGACC  1560
CAAACAGAAC AAGCAGAGCA GCCAGTGAAT TGGCCAACCA GCAACCCTCT GCCTCTGGCT  1620
CCCTTGTTCA ACAAGCCACG GACTGTTCTT CAACCACTAA AGCAGCTAGT GGCACAGAGG  1680
CAGGTGAAGA AGGGGACAGC GAGCCCAAGG AGTGCAGCCG GATGGGTGGT AGGCGAAGTG  1740
GAGGGACCCG GGGCCGCTCG ATCCAAAACC GGCGGAAGAG TGAGCGTTTT GCTACCAATC  1800
TGCGTAATGA AATTCAGAGG AGGAAGGCCC AGCTCCAGAA AAGCAAGGGT CCCTTGTCAC  1860
AGCTGTGTGA CACTAAGGAG CCAGTGGAAG AGACCCAGGA GCCCCCAGAA AGTCCTCCAC  1920
TCACTGCCTC TAACACATCT CTTCTATCTT CATGTAAAAA ACCTCCCAGC CCCAGAGACA  1980
AGCTCTTCAA CAAAAGCATG ATGCTCAGAG CTAGGTCTTC CGAGTGCCTC AGCCAAGCCC  2040
CTGAGAGCCA TGAATCTAGG ACAGGCTTAG AGGGACGAAT AAGCCCTGGC CAGAGGCCTG  2100
GCCAGTCCTC TTTGGGCCTG AACACCTGGT GGAAAGCACC TGACCCATCC TCCTCAGACC  2160
CTGAGAAAGC ACATGCTCAC TGTGGAGTCC GTGGAGGTCA TTGGAGATGG TCTCCAGAGC  2220
ATAATTCACA GCCACTTGTG GCAGCAGCCA TGGAAGGCCC TTCCAACCCA GGTGACAACA  2280
AGGAATTGAA GGCTTCTACT GCTCAAGCTG GGGAGGATGC CATCCTCTTG CCTTTTGCAG  2340
ACAGAAGAAA GTTCTTTGAA GAGAGTAGCA AATCCTTATC TACATCTCAT TTGCCAGGTT  2400
TAACCACTCA TAGCAACAAG ACTTTTACCC AGAGACCAAA ACCTATAGAC CAAAACTTCC  2460
AGCCAATGAG CTCCAGCTGT AGGGAATTGA GGCGCCATCC CATGGACCAA TCATATCATT  2520
CCGCAGACCA ACCATATCAT GCCACAGACC AATCATATCA TTCCATGTCA CCCCTTCAGT  2580
CAGAAACTCC CACTTACTCA GAATGTTTTG CAAGCAAAGG TCTAGAAAAT TCCATGTGTT  2640
GTAAGCCACT ACACTGTGGT GATTTTGATT ACCACAGGAC CTGCTCTTAC TCCTGCAGTG  2700
TTCAAGGAGC TCTAGTCCAT GATCCTTGCA TTTATTGTTC TGGGGAAATC TGCCCTGCCT  2760
TGCTAAAGAG AAATATGATG CCAAATTGCT ACAACTGCCG GTGCCACCAC CACCAATGCA  2820
TTCGGTGTTC AGTTTGCTAT CATAATCCTC AGCACAGTGC CCTCGAGGAC AGCAGCTTGG  2880
CACCTGGCAA CACTTGGAAA CCCAGGAAGC TGACAGTGCA GGAATTTCCT GGGGACAAAT  2940
GGAATCCAAT AACAGGAAAC AGGAAGACCA GCCAGTCAGG GAGGGAAATG GCTCATTCCA  3000
AGACTAGCTT TTCATGGGCA ACCCCTTTCC ATCCTTGCCT TGAGAACCCA GCACTGGACT  3060
TGTCAAGCTA CCGAGCAATT TCTTCTCTTG ACCTCCTTGG AGACTTCAAA CATGCTTTGA  3120
AAAAATCAGA GGAAACTTCA GTTTATGAGG AGGGGAGCTC CCTTGCCTCC ATGCCCCACC  3180
CACTGCGCAG CCGTGCCTTC TCAGAGAGTC ACATCAGCTT GGCGCCCCAA AGCACCCGGG  3240
CCTGGGGGCA GCATAGGAGG GAGCTCTTTA GCAAAGGTGA TGAGACCCAG TCGGATCTTC  3300
TCGGAGCCAG GAAGAAGGCC TTTCCTCCTC CTCGCCCTCC TCCTCCCAAC TGGGAGAAGT  3360
ACAGGCTCTT TCGTGCAGCC CAGCAGCAGA AGCAGCAACA GCAGCAGCAG AAGCAACAGG  3420
AGGAGGAGGA GGAGGAGGAA GAAGAAGAAG AAGAGGAAGA GGAAGAGGAG GAGGAGGAGG  3480
CAGAGGAGGA GGAAGAGGAG CTGCCACCCC AGTATTTCAG TTCAGAAACC TCTGGTTCCT  3540
GTGCTCTCAA TCCTGAGGAG GTCCTAGAGC AGCCACAACC CCTCAGCTTT GGCCACCTGG  3600
AGGGCTCGAG ACAGGGTTCA CAAAGTGTCC CAGCAGAGCA AGAATCCTTT GCACTCCATT  3660
CCAGTGATTT CTTGCCTCCA ATAAGGGGTC ACTTGGGATC TCAACCTGAG CAGGCTCAGC  3720
CCCCTTGCTA CTATGGCATT GGTGGGCTTT GGAGGACATC GGGACAGGAA GCCACTGAAT  3780
CCGCCAAACA AGAGTTTCAG CACTTTTCGC CTCCTTCAGG GGCCCCAGGA ATCCCTACCT  3840
CTTACTCAGC TTATTACAAT ATTTCTGTGG CCAAGGCAGA GCTGCTGAAC AAACTGAAAG  3900
ACCAACCTGA GATGGCAGAG ATTGGCCTAG GAGAGGAGGA AGTTGACCAT GAACTGGCTC  3960
AAAAAAAGAT ACAGCTTATC GAAAGCATCA GCAGAAAACT TTCTGTCTTG CGGGAGGCCC  4020
AGCGAGGGCT GCTAGAGGAC ATCAATGCCA ATTCTGCCCT TGGGGAGGAG GTGGAGGCCA  4080
ACTTAAAAGC CGTCTGCAAA TCCAATGAAT TTGAAAAGTA CCACTTGTTT GTTGGGGACC  4140
TGGACAAAGT GGTCAACCTG TTGCTGTCAC TCTCTGGACG ACTGGCCCGG GTGGAGAATG  4200
CTCTGAACAG CATCGATTCA GAGGCCAACC AGGAGAAGTT GGTACTGATA GAGAAGAAGC  4260
AGCAGCTGAC GGGGCAGTTG GCAGATGCCA AGGAGCTGAA GGAGCACGTG GACCGCCGGG  4320
AGAAGTTGGT GTTTGGCATG GTCTCCCGCT ACCTGCCTCA GGACCAGCTC CAAGATTACC  4380
AGCACTTTGT CAAGATGAAA TCTGCTCTCA TCATTGAACA GCGAGAGCTG GAGGAGAAGA  4440
TCAAGCTCGG GGAAGAGCAA CTCAAATGTC TCAGGGAGAG TCTACTCCTG GGCCCAGCA  4500
ATTTCTAATT CTACCAGCAC TCTGCCACAG CATCCCTGCC CAGCCATGTG GGAAGTGCTT  4560
TCAATCTTCT TTGTTAGCAG TTTCTCAGCA AGTAGATAGC AATTAGCAGT TTGTTCCAGC  4620
CCTCTACCCT GGATGTCTCT CACTACCCCT TCCCTAGCAG TGGTCCTAAC CAGCTAGGAG  4680
ACCCTGGGGA AGCCACAAGC TTCTACCCAA GGGAGCTGCA GCAAGGTGTG ATCTTAGAAC  4740
CACACTCTCC TTCCCACAGT TGCCAAGGGC AAGTACTTGC TGCACAGAGA ACCAAGGAAG  4800
TGCCTTCATT CTGCTTTGTA CTAGGACACC AAAGACATCA AGTACTCATC ACCCACCCAT  4860
ATCATCAACA GCCTCTAAAG GCTCAGAGGG AATCTGCCTT GCAGCTCTAC TCTGCCCCAG  4920
GGCTTGTGGC CAGCCATTTC TCACAGAGAG CTGGCTGCCT TGAGGGCATT CACCTGGCAC  4980
CAGTTTCAGG GCCTCACCCA AGCTTTGCAG GGGAAAGCAC AGAGGGAGGA ATTACACTGA  5040
AAAAAATGCA AGCAAAGGTT GAGTACCCCC AGGTGCCCCT TAGGAAGGAA CCAGGTTTAA  5100
ATAGGCTCTA CCCTTACCTT TCCCAGCAGC AAGTTCAGGG GAAGAGGCCT ACTCTTAGCC  5160
CTGGCTAGTG TGACCCTCTT CCTGTCCTAA GACTTTGGTC CTACCACCTC TTGTTTCATC  5220
TTTCCTTTAC ATTGCTGGGG GTTACCGCAG GTGCCTACCC CAGGGCTTCA CCATATGGGC  5280
CATTAATAGC TCTACTAAAA CTGACTTCTA GATGTAGGTT TCATTATTGG GGGAGGGGGT  5340
TCTTATTGTT ATATTTTAAA TGGCCTTTTG ATTTTATTTA TTTTTATGTT TTGATTATTT  5400
TTTTCTTTTT TAACTAATAA GGCGAGAAGA GGGAAGTTGG AGAGGGAAAA GTTAGCCCAG  5460
AAGGAAAGCA TTTTCTGCAG ATCAGCCTGA ATCCACCGTG GCTAGGCATA TTCTTGCTCT  5520
TCTCGTGTTG CTCACAACTA CCTGCCTGGA TGAATTTAGG AAAGTTGCAG GATACAAGGT  5580
TAAAACACAA GATCAAATGA ACAATCCGAA AATGTTATTA AGAAAACAGT TCCGGCCGGG  5640
CATGGTGGCT CACGCCTGAA ATCCCAGCAC TTTGGGAGGC CGAGGCAGGT GGATCACGAG  5700
GTCAGGAGAT CAAGACCATC CTGGCTAACA CGGTGAAACC CTATCTCTAC TAAAAATACA  5760
AAAAATTAGC CAGGTGTGGT GGCACGCACC AGTAGTCCCA GCTACTCGGG AGGCTGAGGC  5820
AGGAGAATTG CTTGAACCTG GAAGGCAGAG ATTGCAGTGA GCTGAGACCA CACCACTGCA  5880
CTCCATCCTG GGCAACAGAG TGAGACTTTG TCTCAAAAAG AAAGAAAGAA AGAAAGAAAG  5940
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AAAGAAAGAA AGAAAAGAAA GAAAGAAAGA AAGAAAGAAA ACAGTTCCAT TTACAATAGC  6000
ATC
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Seq ID NO: 59 Protein sequence:
Protein Accession #: XP_050478

```
1          11         21         31         41         51
|          |          |          |          |          |
MENRPGSFQY VPVQLQGGAP WGFTLKGGLE HCEPLTVSKI EDGGKAALSQ KMRTGDELVN    60
INGTPLYGSR QEALILIKGS FRILKLIVRR RNAPVSRPHS WHVAKLLEGC PEAATTMHFP   120
SEAFSLSWHS GCNTSDVCVQ WCPLSRHCST EKSSSIGSME SLEQPGQATY ESHLLPIDQN   180
MYPNQRDSAY SSFSASSNAS DCALSLRPEE PASTDCIMQG PGPTKAPSGR PNVAETSGGS   240
RRTNGGHLTP SSQMSSRPQE GYQSGPAKAV RGPPQPPVRR DSLQASRAQL LNGEQRRASE   300
PVVPLPQKEK LSLEPVLPAR NPNRFCCLSG HDQVTSEGHQ NCEFSQPPES SQQGSEHLLM   360
QASTKAVGSP KACDRASSVD SNPLNEASAE LAKASFGRPP HLIGPTGHRH SAPEQLLASH   420
LQHVHLDTRG SKGMELPPVQ DGHQWTLSPL HSSHKGKKSP CPPTGGTHDQ SSKERKTRQV   480
DDRSLVLGHQ SQSSPPHGEA DGHPSEKGFL DPNRTSRAAS ELANQQPSAS GSLVQQATDC   540
SSTTKAASGT EAGEEGDSEP KECSRMGGRR SGGTRGRSIQ NRRKSERFAT NLRNEIQRRK   600
AQLQKSKGPL SQLCDTKEPV EETQEPPESP PLTASNTSLL SSCKKPPSPR DKLFNKSMML   660
RARSSECLSQ APESHESRTG LEGRISPGQR PGQSSLGLNT WWKAPDPSSS DPEKAHAHCG   720
VRGGHWRWSP EHNSQPLVAA AMEGPSNPGD NKELKASTAQ AGEDAILLPF ADRRKFFEES   780
SKSLSTSHLP GLTTHSNKTF TQRPKPIDQN FQPMSSSCRE LRRHPMDQSY HSADQPYHAT   840
DQSYHSMSPL QSETPTYSEC FASKGLENSM CCKPLHCGDF DYHRTCSYSC SVQGALVHDP   900
CIYCSGEICP ALLKRNMMPN CYNCRCHHHQ CIRCSVCYHN PQHSALEDSS LAPGNTWKPR   960
KLTVQEFPGD KWNPITGNRK TSQSGREMAH SKTSFSWATP FHPCLENPAL DLSSYRAISS  1020
LDLLGDFKHA LKKSEETSVY EEGSSLASMP HPLRSRAFSE SHISLAPQST RAWGQHRREL  1080
FSKGDETQSD LLGARKKAFP PPRPPPPNWE KYRLFRAAQQ QKQQQQQQKQ QEEEEEEEEE  1140
EEEEEEEEEE EAEEEEEELP PQYFSSETSG SCALNPEEVL EQPQPLSFGH LEGSRQGSQS  1200
VPAEQESFAL HSSDFLPPIR GHLGSQPEQA QPPCYYGIGG LWRTSGQEAT ESAKQEFQHF  1260
SPPSGAPGIP TSYSAYYNIS VAKAELLNKL KDQPEMAEIG LGEEEVDHEL AQKKIQLIES  1320
ISRKLSVLRE AQRGLLEDIN ANSALGEEVE ANLKAVCKSN EFEKYHLFVG DLDKVVNLLL  1380
SLSGRLARVE NALNSIDSEA NQEKLVLIEK KQQLTGQLAD AKELKEHVDR REKLVFGMVS  1440
RYLPQDQLQD YQHFVKMKSA LIIEQRELEE KIKLGEEQLK CLRESLLLGP SNF
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Seq ID NO: 60 Nucleotide sequence:
Nucleic Acid Accession #: NM_014705
Coding sequence: 192..2489 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
GGGAGAAGCT AGGAAAAAAT GTCTTTGAGC TGTGAGATGC TTGTATATTT TGAAAATATG    60
ATTATATGCA TGTGTTTGTA TTTTATGACT TGGATAATCT GAAAATCAAT TTGCTTTGTC   120
AATGCTTCCT GGATTAGAAT TCCACTATTT GGTCCCTATC CTAGTCTACT AAAGAAAATT   180
GAGCGGGAAA CATGGCGGGA AAGTGGCGTT TCATTAATTG CTACTGTAAC TCGTCTAATG   240
GAGAGGTTGT TAGATTACAG AACTTCTATA AGACTGAACT GAACAAGGAG GAGATGTATA   300
TACGCTACAT TCACAAACTC TATGATCTGC ATCTCAAAGC ACAGAACTTT ACAGAAGCTG   360
CATATACCCT CCTCTTATAT GACGAGCTAC TGGAATGGTC TGATCGGCCC CTCAGGGAGT   420
TCCTGACCTA CCCCATGCAA ACAGAATGGC AGCGCAAAGA GCACCTGCAC CTCACCATCA   480
TCCAGAACTT TGACAGAGGC AAATGTTGGG AGAATGGCAT TATCTTGTGC CGGAAGATTG   540
CAGAGCAGTA TGAGAGTTAT TATGACTACA GAAACCTGAG CAAGATGCGG ATGATGGAAG   600
CCTCTTTGTA TGACAAAATT ATGGACCAGC AACGTCTTGA ACCAGAGTTC TTCAGAGTTG   660
GATTTTATGG AAAAAAATTT CCATTTTTCT TAAGAAATAA GGAGTTTGTG TGTCGAGGGC   720
ATGACTACGA GAGGCTGGAA GCCTTCCAAC AGAGAATGCT GAACGAGTTC CCCCATGCCA   780
TCGCCATGCA GCACGCCAAC CAGCCCGATG AGACCATCTT CCAGGCAGAA GCTCAGTATT   840
TGCAGATATA TGCTGTGACT CCCATTCCAG AGAGCCAGGA GGTCCTGCAG AGAGAGGGTG   900
TTCCGGACAA CATCAAAAGC TTCTATAAAG TGAATCACAT CTGGAAATTC CGCTATGACC   960
GACCATTTCA CAAAGGCACA AAAGATAAAG AGAATGAATT CAAGAGTCTC TGGGTGGAGA  1020
GAACGTCATT ATACTTGGTG CAGAGTTTGC CTGGCATCTC TCGCTGGTTT GAAGTGGAAA  1080
AGCGTGAAGT GGTAGAAATG AGTCCTCTGG AAAATGCAAT TGAAGTGCTA GAAAATAAGA  1140
ATCAGCAGCT GAAGACTCTG ATTAGTCAGT GTCAGACAAG ACAGATGCAG AATATTAATC  1200
CCCTGACTAT GTGCCTGAAT GGAGTTATAG ATGCTGCAGT TAATGGTGGC GTTTCCAGGT  1260
ATCAAGAGGC ATTCTTTGTC AAAGAATATA TCTTAAGTCA CCCTGAAGAT GGGGAGAAAA  1320
TTGCACGATT AAGAGAGCTG ATGCTTGAGC AGGCACAGAT TCTGGAATTT GGTTTGGCCG  1380
TGCATGAGAA GTTTGTACCT CAAGATATGA GACCCCTTCA CAAAAAGCTG GTTGACCAAT  1440
TCTTTGTGAT GAAGTCGAGC TTAGGGATAC AGGAGTTCTC TGCTTGTATG CAAGCCAGTC  1500
CTGTCCATTT TCCTAATGGA AGCCCTCGTG TGTGTAGAAA CTCAGCACCT GCTTCTGTGA  1560
GCCCAGATGG TACCAGGGTA ATTCCTAGAC GCAGCCCGTT AAGTTACCCA GCTGTCAACC  1620
GATATTCTTC CTCCTCACTG TCCTCACAAG CTTCTGCTGA AGTAAGCAAT ATTACAGGGC  1680
AATCAGAAAG CTCTGATGAA GTCTTTAACA TGCAGCCAAG TCCATCTACC TCAAGCTTGA  1740
GTTCTACTCA CTCGGCTTCA CCTAATGTGA CAAGTTCTGC TCCATCGAGT GCCAGAGCTT  1800
CTCCTTTGTT GTCTGACAAA CACAAACATT CCCGAGAAAA CTCTTGCCTG TCACCAAGAG  1860
AGAGACCATG CAGTGCCATC TATCCAACAC CTGTGGAGCC TTCGCAGAGG ATGCTGTTTA  1920
ATCATATTGG AGACGGGGCC TTGCCACGCA GTGACCCAAA TCTCTCTGCA CCTGAAAAAG  1980
CTTCACCAGC AAGACACACG ACATCAGTAT CCCCCTCGCC TGCCGGGCGA TCTCCATTGA  2040
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AGGGCTCTGT GCAGTCTTTC ACCCCCTCTC CAGTGGAGTA CCACTCGCCA GGACTCATCT  2100
CCAACTCCCC TGTCTTGTCG GGCAGCTACA GCAGTGGGAT TTCTTCTCTC AGCCGGTGCA  2160
GCACGTCGGA AACCTCAGGC TTTGAAAATC AGGTGAATGA ACAGTCGGCC CCCCTGCCGG  2220
TGCCAGTGCC GGTGCCCGTG CCGAGCTACG GCGGGGAGGA GCCAGTGCGC AAGGAGAGCA  2280
AGACTCCGCC CCCGTACAGC GTCTACGAGC GGACTCTGCG GCGCCCCGTC CCGCTACCTC  2340
ACAGCCTCTC CATCCCCGTC ACGTCGGAGC CGCCCGCGCT GCCCCCCAAG CCTCTGGCAG  2400
CGCGATCCAG CCACCTGGAG AATGGGGCCC GGAGGACTGA CCCCGGCCCG CGGCCCAGGC  2460
CCCTGCCCCG CAAGGTCTCT CAGTTATAAG TCACTTTTCT ATGTACCTGC GATGCATTCT  2520
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CTTACTCAGC TCCTTCGATG AATGGAATTA AAACTTGCTT ATTAAATATC ATGTTGCACA  2640
ATATTAAAAG TTGCTGATCT AAAACGCCAG ATGTTAAATG AAGTATGGCT GAATTTCATT  2700
AAAACGTTTC TCATTTGGAA GTGGTAAATA GTGATAAAGA CTCCTTTTGT ACCTTTTTAT  2760
GTTCACTTTT TTTTATATAG TTTAATCTTA AAACCAATAC GATATTGTCA AACGATACAA  2820
TGTGTGACAA TGTTGTATCG TTTTTACTGA ATACTTGATA CTTGGAGAAA GCTTATTAAG  2880
TCAGTGCACA TCCTAACACA GTGGTCCTTA TTTTAGAAGA CTTCTGTAAA TAAGGCAAGG  2940
TTTATCAGTG CAGATCATCA GAATTAAAGT TCAAGCAGGC GAGCAAGACA GTATACTTAA  3000
GGGGTTGCAA AGCTTGGGAC TGGAAATTGT TTTGTTCTTG AAACAAAATA CTTCTTTAAG  3060
GTTGCTTTTG CTGTTTGACT GCTGTCTACA TTCGTAAAAT TCTATTTTGT GAATTGGTAG  3120
CTAAATCCCT TACTACCCTG ACACCGTGGT ATCTACTGTA TTTCTTTTCA AGGTGCAATT  3180
TGCTTCAGAG TTCCAATCAG CTAGATTAAG CAAGAGGCTC CAGAAGAAAT GTTTACTTGA  3240
ATTTTGCGCT TCCTTTCTTG ATAGTTTCCT ATATAAAATT TGTCATTGAA CAAGAGCAAA  3300
TGCTGAAGTA TTAATGAGGC ACAAATGACT GTGCCCCATT AGCAAGAATT CAGGAATCAA  3360
TACAGACAGT ATTAAATTAA TAGCTTAAGT GAAGAAAAAA AAAAACTTAG TGAAAATGTA  3420
TTAGCACGAT TAAATGGCAA AAGGACTTAT AAAAGGCAAG GGCATTAACT TTCAGTCCTG  3480
CACAAAATAA AAAATTCCTC ACGACTCTCC ACTTTTACCA GTGGAGTTTG TCTTAGCTGA  3540
CCTGTCGTCT TTCTCTTGAA GGAGGATTGC TGTAGACTTC TCTAGCTTGA ATATTGCAAC  3600
ATAGCATCTT AGGTCTAGAT AGGGATGCTA ATGCCAGTTG TAGAAGTGTG AAAAAAGCAC  3660
CTTGTATGTA GTAATGTATT TTATATCTTT GTTTTTTCTT TTACTGACTG TTTATAACAC  3720
TCAATTGACA ATAGATATGA ACTGTATTTT AAATCATACT GTTAAATATT TTCCCTCTTT  3780
TGTTGGGAAG CTCATTTTAG TTTAACCATG TTTGTTTTGT TGGTAGCTTA CCTGGAAGGC  3840
AGTGACCACT TTTTTATATT CTCTTAATGA AACCATTCAG CAGGTATATG CTGTTGAGGC  3900
TGGTTATAGA GGTTTTCTAT AATAAATGTT CAAGTATTTT TGTATATAAC TGGTTAATTT  3960
TAATAAGAGA TACCATTATG TGTAAAAAAA AGTAAAAATA AACGCAAACA GTTGTTGATG  4020
CAGTATGATT GTTATAATTA TGCCAAATAC TTTACGTATG GAAAAAGAAT ATTTGTACAT  4080
ATGTGCTTTT AACAATTCTG CCATATTGAC TTTACAATTT TGAATGTCGG AAAAATTAAT  4140
ATATGTTAAA TATTTATGTT TAGTGAAAGT GTTCATAATT GAGAAAAGGA ACATATGCAT  4200
TTTAGCTTTG TATCTTGCAA GTTTTGCAGT CAGAAATTTT TTGAACTAGC TTTTGCTTTT  4260
GATAACACTT CGTGTTTGTA ACCACATTCA TATATATATA CATATATATG TGAAGCTCCA  4320
TATTTCTGTT GCTTTAAAGA AGTAAAACCT TCCATTTAAA TAAGATGACA TGCATAAGAT  4380
AACAAAGCTT CCTTGATTTC CTTTTCCTGT GTAATTTAAT AGATTTGTTG ACTAGTGCTT  4440
GGGCACATTA TAAATCAGTG TTATTTGCTC TTGGAGCCAT TTTTTAAAAA AAATTTTGGC  4500
AGTGAGCAGT TGAATTTATC TTGAATTTAT CATGTGTGTG TATTTCTGAA GCAGCTACAT  4560
AGCAGAACAT TTTAAGAGAT TCTGTTAGCC CACATGTTCA TGTTGGTTGC TGCTGAATGG  4620
TAAATATTAA ATAAAATTAC CAGATTAATC TT
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Seq ID NO: 61 Protein sequence:
Protein Accession #: NP_055520

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1          11         21         31         41         51
|          |          |          |          |          |
MAGKWRFINC YCNSSNGEVV RLQNFYKTEL NKEEMYIRYI HKLYDLHLKA QNFTEAAYTL    60
LLYDELLEWS DRPLREFLTY PMQTEWQRKE HLHLTIIQNF DRGKCWENGI ILCRKIAEQY   120
ESYYDYRNLS KMRMMEASLY DKIMDQQRLE PEFFRVGFYG KKFPFFLRNK EFVCRGHDYE   180
RLEAFQQRML NEFPHAIAMQ HANQPDETIF QAEAQYLQIY AVTPIPESQE VLQREGVPDN   240
IKSFYKVNHI WKFRYDRPFH KGTKDKENEF KSLWVERTSL YLVQSLPGIS RWFEVEKREV   300
VEMSPLENAI EVLENKNQQL KTLISQCQTR QMQNINPLTM CLNGVIDAAV NGGVSRYQEA   360
FFVKEYILSH PEDGEKIARL RELMLEQAQI LEFGLAVHEK FVPQDMRPLH KKLVDQFFVM   420
KSSLGIQEFS ACMQASPVHF PNGSPRVCRN SAPASVSPDG TRVIPRRSPL SYPAVNRYSS   480
SSLSSQASAE VSNITGQSES SDEVFNMQPS PSTSSLSSTH SASPNVTSSA PSSARASPLL   540
SDKHKHSREN SCLSPRERPC SAIYPTPVEP SQRMLFNHIG DGALPRSDPN LSAPEKASPA   600
RHTTSVSPSP AGRSPLKGSV QSFTPSPVEY HSPGLISNSP VLSGSYSSGI SSLSRCSTSE   660
TSGFENQVNE QSAPLPVPVP VPVPSYGGEE PVRKESKTPP PYSVYERTLR RPVPLPHSLS   720
IPVTSEPPAL PPKPLAARSS HLENGARRTD PGPRPRPLPR KVSQL
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Seq ID NO: 62 Nucleotide sequence:
Nucleic Acid Accession #: fgenesh prediction
Coding sequence: 1..2561 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
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ATGGACCGAG GCCAGGGTAA GAGGGGCCGC GACGCCCGCA CTTGTTGCGG CGCCGGGCGG    60
GAAAGGGAGA CTGGACGATC TGAAGCCGGA GAGGAGGAGG GAGAGAGGCG GGCGGTGGGG   120
CGGGGGCTGA GGAACGCTCG GAGGGGACTG GGAGACGCGG CGCTTATGCA AAGGTGCCTT   180
CGGCTGCCGG GACAACCCGC CAGCAACCAG GTACAGCTCT CAGAGGTTCC ACAGAGGAAG   240
CTCAGGGTCC CTGAATCTCC CAGTGTGGCA GAGAAAGTGA AACTTGGTCA CCGATGCCTG   300
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GAACTGCTGG AGCAGCTGCT CCCAGAGCTC ACCGGGCTGC TCAGCCTCCT GGACCACGAG   360
TACCTCAGCG ATACCACCCT GGAAAAGAAG ATGGCCGTGG CCTCCATCCT GCAGAGCCTG   420
CAGCCCCTTC CAGCAAAGGA GGTCTCCTAC CTGTATGTGA ACACAGCAGA CCTCCACTCG   480
GGGCCCAGCT TCGTGGAATC CCTCTTTGAA GAATTTGACT GTGACCTGAG TGACCTTCGG   540
GACATGCCAG AGGATGATGG GGAGCCCAGC AAAGGAGCCA GCCCTGAGCT AGCCAAGAGC   600
CCACGCCTGA GAAACGCGGC CGACCTGCCT CCACCGCTCC CCAACAAGCC TCCCCCTGAG   660
GACTACTATG AAGAGGCCCT TCCTCTGGGA CCCGGCAAGT CGCCTGAGTA CATCAGCTCC   720
CACAATGGCT GCAGCCCCTC ACACTCGATT GTGGATGGCT ACTATGAGGA CGCAGACAGC   780
AGCTACCCTG CAACCAGGGT GAACGGCGAG CTTAAGAGCT CCTATAATGA CTCTGACGCA   840
ATGAGCAGCT CCTATGAGTC CTACGATGAA GAGGAGGAGG AAGGGAAGAG CCCGCAGCCC   900
CGACACCAGT GGCCCTCAGA GGAGGCCTCC ATGCACCTGG TGAGGGAATG CAGGATATGT   960
GCCTTCCTGC TGCGGAAAAA GCGTTTCGGG CAGTGGGCCA AGCAGCTGAC GGTCATCAGG  1020
GAGGACCAGC TCCTGTGTTA CAAAAGCTCC AAGGATCGGC AGCCACATCT GAGGTTGGCA  1080
CTGGATACCT GCAGCATCAT CTACGTGCCC AAGGACAGCC GGCACAAGAG GCACGAGCTG  1140
CGTTTCACCC AGGGGGCTAC CGAGGTCTTG GTGCTGGCAC TGCAGAGCCG AGAGCAGGCC  1200
GAGGAGTGGC TGAAGGTCAT CCGAGAAGTG AGCAAGCCAG TTGGGGGAGC TGAGGGAGTG  1260
GAGGTCCCCA GATCCCCAGT CCTCCTGTGC AAGTTGGACC TGGACAAGAG GCTGTCCCAA  1320
GAGAAGCAGA CCTCAGATTC TGACAGCGTG GGTGTGGGTG ACAACTGTTC TACCCTTGGC  1380
CGCCGGGAGA CCTGTGATCA CGGCAAAGGG AAGAAGAGCA GCCTGGCAGA ACTGAAGGGC  1440
TCAATGAGCA GGGCTGCGGG CCGCAAGATC ACCCGTATCA TTGGCTTCTC CAAGAAGAAG  1500
ACACTGGCCG ATGACCTGCA GACGTCCTCC ACCGAGGAGG AGGTTCCCTG CTGTGGCTAC  1560
CTGAACGTGC TGGTGAACCA GGGCTGGAAG GAACGCTGGT GCCGCCTGAA GTGCAACACT  1620
CTGTATTTCC ACAAGGATCA CATGGACCTG CGAACCCATG TGAACGCCAT CGCCCTGCAA  1680
GGCTGTGAGG TGGCCCCGGG CTTTGGGCCC CGACACCCAT TTGCCTTCAG GATCCTGCGC  1740
AACCGGCAGG AGGTGGCCAT CTTGGAGGCA AGCTGTTCAG AGGACATGGG TCGCTGGCTC  1800
GGGCTGCTGC TGGTGGAGAT GGGCTCCAGA GTCACTCCGG AGGCGCTGCA CTATGACTAC  1860
GTGGATGTGG AGACCTTAAC CAGCATCGTC AGTGCTGGGC GCAACTCCTT CCTATATGCA  1920
AGATCCTGCC AGAATCAGTG GCCTGAGCCC CGAGTCTATG ATGATGTTCC TTATGAAAAG  1980
ATGCAGGACG AGGAGCCCGA GCGCCCCACA GGGGCCCAGG TGAAGCGTCA CGCCTCCTCC  2040
TGCAGTGAGA AGTCCCATCG TGTGGACCCG CAGGTCAAAG TCAAACGCCA CGCCTCCAGT  2100
GCCAATCAAT ACAAGTATGG CAAGAACCGA GCCGAGGAGG ATGCCCGGAG GTACTTGGTA  2160
GAAAAAGAGA AGCTGGAGAA AGAGAAAGAG ACGATTCGGA CAGAGCTGAT AGCACTGAGA  2220
CAGGAGAAGA GGGAACTGAA GGAAGCCATT CGGAGCAGCC CAGGAGCAAA ATTAAAGGCT  2280
CTGGAAGAAG CCGTGGCCAC CCTGGAAGCT CAGTGTCGGG CAAAGGAGGA GCGCCGGATT  2340
GACCTGGAGC TGAAGCTGGT GGCTGTGAAG GAGCGCTTGC AGCAGTCCCT GGCAGGAGGG  2400
CCAGCCCTGG GGCTCTCCGT GAGCAGCAAG CCCAAGAGTG GGCAACTCTC TGAGGAAGAT  2460
ACGCTCACCT CCAATGGTGC TCTCTCAGAG AGAACTTCTC TGACCTCATC TACACCAGGG  2520
CTTCTCAACC CCAACACTAC TGACATTTTG GACCAGTAA
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Seq ID NO: 63 Protein sequence:
Protein Accession #: fgenesh prediction

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1          11         21         31         41         51
|          |          |          |          |          |
MDRGQGKRGR DARTCCGAGR ERETGRSEAG EEEGERRAVG RGLRNARRGL GDAALMQRCL    60
RLPGQPASNQ VQLSEVPQRK LRVPESPSVA EKVKLGHRCL ELLEQLLPEL TGLLSLLDHE   120
YLSDTTLEKK MAVASILQSL QPLPAKEVSY LYVNTADLHS GPSFVESLFE EFDCDLSDLR   180
DMPEDDGEPS KGASPELAKS PRLRNAADLP PPLPNKPPPE DYYEEALPLG PGKSPEYISS   240
HNGCSPSHSI VDGYYEDADS SYPATRVNGE LKSSYNDSDA MSSSYESYDE EEEGKSPQP   300
RHQWPSEEAS MHLVRECRIC AFLLRKKRFG QWAKQLTVIR EDQLLCYKSS KDRQPHLRLA   360
LDTCSIIYVP KDSRHKRHEL RFTQGATEVL VLALQSREQA EEWLKVIREV SKPVGGAEGV   420
EVPRSPVLLC KLDLDKRLSQ EKQTSDSDSV GVGDNCSTLG RRETCDHGKG KKSSLAELKG   480
SMSRAAGRKI TRIIGFSKKK TLADDLQTSS TEEEVPCCGY LNVLVNQGWK ERWCRLKCNT   540
LYFHKDHMDL RTHVNAIALQ GCEVAPGFGP RHPFAFRILR NRQEVAILEA SCSEDMGRWL   600
GLLLVEMGSR VTPEALHYDY VDVETLTSIV SAGRNSFLYA RSCQNQWPEP RVYDDVPYEK   660
MQDEEPERPT GAQVKRHASS CSEKSHRVDP QVKVKRHASS ANQYKYGKNR AEEDARRYLV   720
EKEKLEKEKE TIRTELIALR QEKRELKEAI RSSPGAKLKA LEEAVATLEA QCRAKEERRI   780
DLELKLVAVK ERLQQSLAGG PALGLSVSSK PKSGQLSEED TLTSNGALSE RTSLTSSTPG   840
LLNPNTTDIL DQ
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Seq ID NO: 64 Nucleotide sequence:
Nucleic Acid Accession #: NM_004126.1
Coding sequence: 108-129(underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
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AGCGGCTCCG CTGCCAGAGC TAGCCCGAGC CCGGTTCTGG GGCGAAAATG CCTGCCCTTC   120
ACATCGAAGA TTTGCCAGAG AAGGAAAAAC TGAAAATGGA AGTTGAGCAG CTTCGCAAAG   180
AAGTGAAGTT GCAGAGACAA CAAGTGTCTA AATGTTCTGA AGAAATAAAG AACTATATTG   240
AAGAACGTTC TGGAGAGGAT CCTCTAGTAA AGGGAATTCC AGAAGACAAG AACCCCTTTA   300
AAGAAAAAGG CAGCTGTGTT ATTTCATAAA TAACTTGGGA GAAACTGCAT CCTAAGTGGA   360
AGAACTAGTT TGTTTTAGTT TTCCCAGATA AAACCAACAT GCTTTTTAAG GAAGGAAGAA   420
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TGAAATTAAA AGGAGACTTT CTTAAGCACC ATATAGATAG GGTTATGTAT AAAAGCATAT   480
GTGCTACTCA TCTTTGCTCA CTATGCAGTC TTTTTTAAGA GAGCAGAGAG TATCAGATGT   540
ACAATTATGG AAATAAGAAC ATTACTTGAG CATGACACTT CTTTCAGTAT ATTGCTTGAT   600
GCTTCAAATA AAGTTTTGTC TT
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Seq ID NO: 65 Protein sequence:
Protein Accession #: NP_004117

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1          11         21         31         41         51
|          |          |          |          |          |
MPALHIEDLP EKEKLKMEVE QLRKEVKLQR QQVSKCSEEI KNYIEERSGE DPLVKGIPED    60
KNPFKEKGSC VIS
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Seq ID NO: 66 Nucleotide sequence:
Nucleic Acid Accession #: NM_003842.I
Coding sequence: 1-1236 (underlined sequences correspond to start and stop codons)

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GGACCCAGGG AGGCGCGGGG AGCCAGGCCT GGGCCCCGGG TCCCCAAGAC CCTTGTGCTC   120
GTTGTCGCCG CGGTCCTGCT GTTGGTCTCA GCTGAGTCTG CTCTGATCAC CCAACAAGAC   180
CTAGCTCCCC AGCAGAGAGC GGCCCCACAA CAAAAGAGGT CCAGCCCCTC AGAGGGATTG   240
TGTCCACCTG GACACCATAT CTCAGAAGAC GGTAGAGATT GCATCTCCTG CAAATATGGA   300
CAGGACTATA GCACTCACTG GAATGACCTC CTTTTCTGCT TGCGCTGCAC CAGGTGTGAT   360
TCAGGTGAAG TGGAGCTAAG TCCCTGCACC ACGACCAGAA ACACAGTGTG TCAGTGCGAA   420
GAAGGCACCT TCCGGGAAGA AGATTCTCCT GAGATGTGCC GGAAGTGCCG CACAGGGTGT   480
CCCAGAGGGA TGGTCAAGGT CGGTGATTGT ACACCCTGGA GTGACATCGA ATGTGTCCAC   540
AAAGAATCAG GCATCATCAT AGGAGTCACA GTTGCAGCCG TAGTCTTGAT TGTGGCTGTG   600
TTTGTTTGCA AGTCTTTACT GTGGAAGAAA GTCCTTCCTT ACCTGAAAGG CATCTGCTCA  '660
GGTGGTGGTG GGGACCCTGA GCGTGTGGAC AGAAGCTCAC AACGACCTGG GGCTGAGGAC   720
AATGTCCTCA ATGAGATCGT GAGTATCTTG CAGCCCACCC AGGTCCCTGA GCAGGAAATG   780
GAAGTCCAGG AGCCAGCAGA GCCAACAGGT GTCAACATGT TGTCCCCCGG GGAGTCAGAG   840
CATCTGCTGG AACCGGCAGA AGCTGAAAGG TCTCAGAGGA GGAGGCTGCT GGTTCCAGCA   900
AATGAAGGTG ATCCCACTGA GACTCTGAGA CAGTGCTTCG ATGACTTTGC AGACTTGGTG   960
CCCTTTGACT CCTGGGAGCC GCTCATGAGG AAGTTGGGCC TCATGGACAA TGAGATAAAG  1020
GTGGCTAAAG CTGAGGCAGC GGGCCACAGG GACACCTTGT ACACGATGCT GATAAAGTGG  1080
GTCAACAAAA CCGGGCGAGA TGCCTCTGTC CACACCCTGC TGGATGCCTT GGAGACGCTG  1140
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TATCTAGAAG GTAATGCAGA CTCTGCCATG TCCTAA
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Seq ID NO: 67 Protein sequence:
Protein Accession #: NP_003833.1

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1          11         21         31         41         51
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MEQRGQNAPA ASGARKRHGP GPREARGARP GPRVPKTLVL VVAAVLLLVS AESALITQQD    60
LAPQQRAAPQ QKRSSPSEGL CPPGHHISED GRDCISCKYG QDYSTHWNDL LFCLRCTRCD   120
SGEVELSPCT TTRNTVCQCE EGTFREEDSP EMCRKCRTGC PRGMVKVGDC TPWSDIECVH   180
KESGIIIGVT VAAVVLIVAV FVCKSLLWKK VLPYLKGICS GGGGDPERVD RSSQRPGAED   240
NVLNEIVSIL QPTQVPEQEM EVQEPAEPTG VNMLSPGESE HLLEPAEAER SQRRRLLVPA   300
NEGDPTETLR QCFDDFADLV PFDSWEPLMR KLGLMDNEIK VAKAEAAGHR DTLYTMLIKW   360
VNKTGRDASV HTLLDALETL GERLAKQKIE DHLLSSGKFM YLEGNADSAM S
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Seq ID NO: 68 Nucleotide sequence:
Nucleic Acid Accession #: *FGENESH predicted ORF*
Coding sequence: 361- 2220(underlined sequences correspond to start and stop codons)

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GGCACCATCT GCTCCCTGCC CTGCCCAGAG GGCTTTCACG GACCCAACTG CTCCCAGGAA    60
TGTCGCTGCC ACAACGGCGG CCTCTGTGAC CGATTCACTG GGCAGTGCCG CTGCGCTCCG   120
GGTTACACTG GGGATCGGTG CCGGGAGGAG TGCCCGGTGG GCCGCTTTGG GCAGGACTGT   180
GCTGAGACGT GCGACTGCGC CCCGGACGCC CGTTGCTTCC CGGCCAACGG CGCATGTCTG   240
TGCGAACACG GCTTCACTGG GGACCGCTGC ACGGATCGCC TCTGCCCCGA CGGCTTCTAC   300
GGTCTCAGCT GCCAGGCCCC CTGCACCTGC GACCGGGAGC ACAGCCTCAG CTGCCACCCG   360
ATGAACGGGG AGTGCTCCTG CCTGCCGGGC TGGGCGGGCC TCCACTGCAA CGAGAGCTGC   420
CCGCAGGACA CGCATGGGCC AGGGTGCCAG GAGCACTGTC TCTGCCTGCA CGGTGGCGTC   480
TGCCAGGCTA CCAGCGGCCT CTGTCAGTGC GCGCCGGGTT ACACGGGCCC TCACTGTGCT   540
AGTCTTTGTC CTCCTGACAC CTACGGTGTC AACTGTTCTG CACGCTGCTC ATGTGAAAAT   600
GCCATCGCCT GCTCACCCAT CGACGGCGAG TGCGTCTGCA AGGAAGGTTG GCAGCGTGGT   660
AACTGCTCTG TGCCCTGCCC ACCCGGAACC TGGGGCTTCA GTTGCAATGC CAGCTGCCAG   720
TGTGCCCATG AGGCAGTCTG CAGCCCCCAA ACTGGAGCCT GTACCTGCAC CCCTGGGTGG   780
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CATGGGGCCC ACTGCCAGCT GCCCTGTCCG AAGGGGCAGT TTGGAGAAGG TTGTGCCAGT   840
CGCTGTGACT GTGACCACTC TGATGGCTGT GACCCTGTTC ATGGACGCTG TCAGTGCCAG   900
GCTGGCTGGA TGGGTGCCCG CTGCCACCTG TCCTGCCCTG AGGGCTTATG GGGAGTCAAC   960
TGTAGCAACA CCTGCACCTG CAAGAATGGG GGCACCTGTC TCCCTGAGAA TGGCAACTGC  1020
GTGTGTGCAC CCGGATTCCG GGGCCCCTCC TGCCAGAGAT CCTGTCAGCC TGGCCGCTAT  1080
GGCAAACGCT GTGTGCCCTG CAAGTGCGCT AACCACTCCT TCTGCCACCC CTCGAACGGG  1140
ACCTGCTACT GCCTGGCTGG CTGGACAGGC CCCGACTGCT CCCAGCGCTG CCCTCTGGGG  1200
ACATTTGGTG CTAACTGCTC CCAGCCATGC CAGTGTGGTC CTGGAGAAAA GTGCCACCCA  1260
GAGACTGGGG CCTGTGTATG TCCCCCAGGG CACAGTGGTG CACCTTGCAG GATTGGAATC  1320
CAGGAGCCCT TTACTGTGAT GCCGACCACT CCAGTAGCGT ATAACTCGCT GGGTGCAGTG  1380
ATTGGCATTG CAGTGCTGGG GTCCCTTGTG GTAGCCCTGG TGGCACTGTT CATTGGCTAT  1440
CGGCACTGGC AAAAAGGCAA GGAGCACCAC CACCTGGCTG TGGCTTACAG CAGCGGGCGC  1500
CTGGACGGCT CCGAGTATGT CATGCCAGAT GTCCCTCCGA GCTACAGTCA CTACTACTCC  1560
AACCCCAGCT ACCACACCCT GTCGCAGTGC TCCCCAAACC CCCCACCCCC TAACAAGGTT  1620
CCAGGCCCGC TCTTTGCCAG CCTGCAGAAC CCTGAGCGGC CAGGTGGGGC CCAAGGGCAT  1680
GATAACCACA CCACCCTGCC TGCTGACTGG AAGCACCGCC GGGAGCCCCC TCCAGGGCCT  1740
CTGGACAGGG GGAGCAGCCG CCTGGACCGA AGCTACAGCT ATAGCTACAG CAATGGCCCA  1800
GGCCCATTCT ACAATAAAGG GCTCATCTCT GAAGAGGAGC TCGGGGCCAG TGTGGCTTCC  1860
CTGAGCAGTG AGAACCCATA TGCCACCATC CGGGACCTGC CCAGCTTGCC AGGGGGCCCC  1920
CGGGAGAGCA GCTACATGGA GATGAAAGGC CCTCCCTCAG GATCTCCCCC CAGGCAGCCT  1980
CCTCAGTTCT GGGACAGCCA GAGGCGGCGG CAACCCCAGC CACAGAGAGA CAGTGGCACC  2040
TACGAGCAGC CCAGCCCCCT GATCCATGAC CGAGACTCTG TGGGCTCCCA GCCCCCTCTG  2100
CCTCCGGGCC TACCCCCCGG CCACTATGAC TCACCCAAGA ACAGCCACAT CCCTGGACAT  2160
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Seq ID NO: 69 Protein sequence:
Protein Accession #: FGENESH prediction

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AETCDCAPDA RCFPANGACL CEHGFTGDRC TDRLCPDGFY GLSCQAPCTC DREHSLSCHP   120
MNGECSCLPG WAGLHCNESC PQDTHGPGCQ EHCLCLHGGV CQATSGLCQC APGYTGPHCA   180
SLCPPDTYGV NCSARCSCEN AIACSPIDGE CVCKEGWQRG NCSVPCPPGT WGFSCNASCQ   240
CAHEAVCSPQ TGACTCTPGW HGAHCQLPCP KGQFGEGCAS RCDCDHSDGC DPVHGRCQCQ   300
AGWMGARCHL SCPEGLWGVN CSNTCTCKNG GTCLPENGNC VCAPGFRGPS CQRSCQPGRY   360
GKRCVPCKCA NHSFCHPSNG TCYCLAGWTG PDCSQRCPLG TFGANCSQPC QCGPGEKCHP   420
ETGACVCPPG HSGAPCRIGI QEPFTVMPTT PVAYNSLGAV IGIAVLGSLV VALVALFIGY   480
RHWQKGKEHH HLAVAYSSGR LDGSEYVMPD VPPSYSHYYS NPSYHTLSQC SPNPPPPNKV   540
PGPLFASLQN PERPGGAQGH DNHTTLPADW KHRREPPPGP LDRGSSRLDR SYSYSYSNGP   600
GPFYNKGLIS EEELGASVAS LSSENPYATI RDLPSLPGGP RESSYMEMKG PPSGSPPRQP   660
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Seq ID NO: 70 Nucleotide sequence:
Nucleic Acid Accession #: NM_005458
Coding sequence: 1..2826 (underlined sequences correspond to start and stop codons)

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CTCATGCCGC TCACCAAGGA GGTGGCCAAG GGCAGCATCG GGCGCGGTGT GCTCCCCGCC   240
GTGGAACTGG CCATCGAGCA GATCCGCAAC GAGTCACTCC TGCGCCCCTA CTTCCTCGAC   300
CTGCGGCTCT ATGACACGGA GTGCGACAAC GCAAAAGGGT TGAAAGCCTT CTACGATGCA   360
ATAAAATACG GGCCGAACCA CTTGATGGTG TTTGGAGGCG TCTGTCCATC CGTCACATCC   420
ATCATTGCAG AGTCCCTCCA AGGCTGGAAT CTGGTGCAGC TTTCTTTTGC TGCAACCACG   480
CCTGTTCTAG CCGATAAGAA AAAATACCCT TATTTCTTTC GGACCGTCCC ATCAGACAAT   540
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GGCGAGGACA TTGAGATTTC AGACACCGAG AGCTTCTCCA ACGATCCCTG TACCAGTGTC   720
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GAGTACAACG CTGTGGCCGA CACACTGGAG ATCATCAATG ACACCATCAG GTTCCAAGGA  1380
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CACGCCTACC TCCCATCCAT CGGAGGCGTG GACGCCAGCT GTGTCAGCCC CTGCGTCAGC  2760
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Seq ID NO: 71 Protein sequence:
Protein Accession #: NP_005449

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IKYGPNHLMV FGGVCPSVTS IIAESLQGWN LVQLSFAATT PVLADKKKYP YFFRTVPSDN   180
AVNPAILKLL KHYQWKRVGT LTQDVQRFSE VRNDLTGVLY GEDIEISDTE SFSNDPCTSV   240
KKLKGNDVRI ILGQFDQNMA AKVFCCAYEE NMYGSKYQWI IPGWYEPSWW EQVHTEANSS   300
RCLRKNLLAA MEGYIGVDFE PLSSKQIKTI SGKTPQQYER EYNNKRSGVG PSKFHGYAYD   360
GIWVIAKTLQ RAMETLHASS RHQRIQDFNY TDHTLGRIIL NAMNETNFFG VTGQVVFRNG   420
ERMGTIKFTQ FQDSREVKVG EYNAVADTLE IINDTIRFQG SEPPKDKTII LEQLRKISLP   480
LYSILSALTI LGMIMASAFL FFNIKNRNQK LIKMSSPYMN NLIILGGMLS YASIFLFGLD   540
GSFVSEKTFE TLCTVRTWIL TVGYTTAFGA MFAKTWRVHA IFKNVKMKKK IIKDQKLLVI   600
VGGMLLIDLC ILICWQAVDP LRRTVEKYSM EPDPAGRDIS IRPLLEHCEN THMTIWLGIV   660
YAYKGLLMLF GCFLAWETRN VSIPALNDSK YIGMSVYNVG IMCIIGAAVS FLTRDQPNVQ   720
FCIVALVIIF CSTITLCLVF VPKLITLRTN PDAATQNRRF QFTQNQKKED SKTSTSVTSV   780
NQASTSRLEG LQSENHRLRM KITELDKDLE EVTMQLQDTP EKTTYIKQNH YQELNDILNL   840
GNFTESTDGG KAILKNHLDQ NPQLQWNTTE PSRTCKDPIE DINSPEHIQR RLSLQLPILH   900
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Seq ID NO: 72 Nucleotide sequence:
Nucleic Acid Accession #: NM_005795
Coding sequence: 522-1940 (underlined sequences correspond to start and stop codons)

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TGAGAATATT TCACAAAGAA TTTCCTTAAG AGCTGGACTG GGTCTTGACC CCTGGAATTT   240
AAGAAATTCT TAAAGACAAT GTCAAATATG ATCCAAGAGA AAATGTGATT TGAGTCTGGA   300
GACAATTGTG CATATCGTCT AATAATAAAA ACCCATACTA GCCTATAGAA AACAATATTT   360
GAATAATAAA AACCCATACT AGCCTATAGA AAACAATATT TGAAAGATTG CTACCACTAA   420
AAAGAAAACT ACTACAACTT GACAAGACTG CTGCAAACTT CAATTGGTCA CCACAACTTG   480
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ATTTGGGCTT AATGATGGAG AAAAAGTGTA CCCTGTATTT TCTGGTTCTC TTGCCTTTTT   600
TTATGATTCT TGTTACAGCA GAATTAGAAG AGAGTCCTGA GGACTCAATT CAGTTGGGAG   660
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CCATTCAACA AGCAGAAGGC GTTTACTGCA ACAGAACCTG GGATGGATGG CTCTGCTGGA   780
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CTGCAGTGGC CAACAACCAG GCCTTAGTAG CCACAAATCC TGTTAGTTGC AAAGTGTCCC  1200
AGTTCATTCA TCTTTACCTG ATGGGCTGTA ATTACTTTTG GATGCTCTGT GAAGGCATTT  1260
ACCTACACAC ACTCATTGTG GTGGCCGTGT TTGCAGAGAA GCAACATTTA ATGTGGTATT  1320
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TCAAATTGCT AAGACAAATT ATCTAAATTC GTAAGAATTA ACATATAGAA TGGTCTGGTC  3840
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Seq ID NO: 73 Protein sequence:
Protein Accession #: NM_005795

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NWFRHPASNR TWTNYTQCNV NTHEKVKTAL NLFYLTIIGH GLSIASLLIS LGIFFYFKSL   180
SCQRITLHKN LFFSFVCNSV VTIIHLTAVA NNQALVATNP VSCKVSQFIH LYLMGCNYFW   240
MLCEGIYLHT LIVVAVFAEK QHLMWYYFLG WGFPLIPACI HAIARSLYYN DNCWISSDTH   300
LLYIIHGPIC AALLVNLFFL LNIVRVLITK LKVTHQAESN LYMKAVRATL ILVPLLGIEF   360
VLIPWRPEGK IAEEVYDYIM HILMHFQGLL VSTIFCFFNG EVQAILRRNW NQYKIQFGNS   420
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Seq ID NO: 74 Nucleotide sequence:
Nucleic Acid Accession #: NM_000450.1
Coding sequence: 117..1949 (underlined sequences correspond to start and stop codons)

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GGTCTTACAA CACCTCCACG GAAGCTATGA CTTATGATGA GGCCAGTGCT TATTGTCAGC   240
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Seq ID NO: 75 Protein sequence:
Protein Accession #: NP_000441

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SILSYSPSYY WIGIRKVNNV WVWVGTQKPL TEEAKNWAPG EPNNRQKDED CVEIYIKREK   120
DVGMWNDERC SKKKLALCYT AACTNTSCSG HGECVETINN YTCKCDPGFS GLKCEQIVNC   180
TALESPEHGS LVCSHPLGNF SYNSSCSISC DRGYLPSSME TMQCMSSGEW SAPIPACNVV   240
ECDAVTNPAN GFVECFQNPG SFPWNTTCTF DCEEGFELMG AQSLQCTSSG NWDNEKPTCK   300
AVTCRAVRQP QNGSVRCSHS PAGEFTFKSS CNFTCEEGFM LQGPAQVECT TQGQWTQQIP   360
VCEAFQCTAL SNPERGYMNC LPSASGSFRY GSSCEFSCEQ GFVLKGSKRL QCGPTGEWDN   420
EKPTCEAVRC DAVHQPPKGL VRCAHSPIGE FTYKSSCAFS CEEGFELYGS TQLECTSQGQ   480
WTEEVPSCQV VKCSSLAVPG KINMSCSGEP VFGTVCKFAC PEGWTLNGSA ARTCGATGHW   540
SGLLPTCEAP TESNIPLVAG LSAAGLSLLT LAPFLLWLRK CLRKAKKFVP ASSCQSLESD   600
GSYQKPSYIL
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Seq ID NO: 76 Nucleotide sequence:
Nucleic Acid Accession #: NM_031439
Coding sequence: 69..1235 (underlined sequences correspond to start and stop codons)

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GTGCGGCCAT GGCTTCGCTG CTGGGAGCCT ACCCTTGGCC CGAGGGTCTC GAGTGCCCGG   120
CCCTGGACGC CGAGCTGTCG GATGGACAAT CGCCGCCGGC CGTCCCCCGG CCCCCGGGGG   180
ACAAGGGCTC CGAGAGCCGT ATCCGGCGGC CCATGAACGC CTTCATGGTT TGGGCCAAGG   240
ACGAGAGGAA ACGGCTGGCA GTGCAGAACC CGGACCTGCA CAACGCCGAG CTCAGCAAGA   300
TGCTGGGAAA GTCGTGGAAG GCGCTGACGC TGTCCCAGAA GAGGCCGTAC GTGGACGAGG   360
CGGAGCGGCT GCGCCTGCAG CACATGCAGG ACTACCCCAA CTACAAGTAC CGGCCGCGCA   420
GGAAGAAGCA GGCCAAGCGG CTGTGCAAGC GCGTGGACCC GGGCTTCCTT CTGAGCTCCC   480
TCTCCCGGGA CCAGAACGCC CTGCCGGAGA AGAGAAGCGG CAGCCGGGGG GCGCTGGGGG   540
AGAAGGAGGA CAGGGGTGAG TACTCCCCCG GCACTGCCCT GCCCAGCCTC CGGGGCTGCT   600
ACCACGAGGG GCCGGCTGGT GGTGGCGGCG GCGGCACCCC GAGCAGTGTG GACACGTACC   660
CGTACGGGCT GCCCACACCT CCTGAAATGT CTCCCCTGGA CGTGCTGGAG CCGGAGCAGA   720
CCTTCTTCTC CTCCCCCTGC CAGGAGGAGC ATGGCCATCC CCGCCGCATC CCCCACCTGC   780
CAGGGCACCC GTACTCACCG GAGTACGCCC CAAGCCCTCT CCACTGTAGC CACCCCCTGG   840
GCTCCCTGGC CCTTGGCCAG TCCCCCGGCG TCTCCATGAT GTCCCCTGTA CCCGGCTGTC   900
CCCCATCTCC TGCCTATTAC TCCCCGGCCA CCTACCACCC ACTCCACTCC AACCTCCAAG   960
CCCACCTGGG CCAGCTTTCC CCGCCTCCTG AGCACCCTGG CTTCGACGCC CTGGATCAAC  1020
TGAGCCAGGT GGAACTCCTG GGGGACATGG ATCGCAATGA ATTCGACCAG TATTTGAACA  1080
CTCCTGGCCA CCCAGACTCC GCCACAGGGG CCATGGCCCT CAGTGGGCAT GTTCCGGTCT  1140
CCCAGGTGAC ACCAACGGGT CCCACAGAGA CCAGCCTCAT CTCCGTCCTG GCTGATGCCA  1200
CGGCCACGTA CTACAACAGC TACAGTGTGT CATAGAGCTG GAGGCGCCCC GTCCGGTCAG  1260
CCCTCGCGCC CTCTCCTTCT TGTGCCTTGA GTGGCAGAGG AGCCGTCCAG CCACACCAGC  1320
TTTCCTCCCA CCGCTCAGGG CAGGGAGGTC TGAACTGCGG CCCCAGAGCC TTTGGCCTAA  1380
GCTGGACTCT CCTTATCCGA GTGCCGCCTC TATCCCCTTC CCCACGTTCC AGCCCCTGCA  1440
GCCCACATTT TAAGTATATT CCTTCAAGTG AGTTTTCCTC CAGCCCCTGA GAGTTGCTGT  1500
CTCCCAGTGG AATGTTCACT GACGTCTTTT CTTGGTAGCC ATCATCGAAA CTAATGGGGG  1560
GACAGACTTG ATAGCCAAGG TCCCTTCTGG TCCAGTTTTC TGATTTAGGG TTCTCTCAAG  1620
ATTAATAAAG GAAGATGGGG AAATTTGACT CATTAATGAG CTCGCTAACC TACGATCTGG  1680
TGATAATTTT GTGTGCACAG CCCAAGGACC ACGAGGCTTT CTGCACTTTC TGCACCCCCT  1740
TCCAAAGTGA CCACAAAATT TCAAAGGGAC TCATACAATT TGAGAAAAAA CAGTCAACCT  1800
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TATTTTATTT TAAATATACA TTTTAAAGCA GTTCTTTTTT TTTGTTAATT TGTTTATTAT  1920
ACACACACTT CAAGAGCCAC CGCGCCCAGC CTACATTTAT AATTTTCATT CTCTTTTACC  1980
TATAAAATTC AGTGTATTAG TTTCATTACA TAGGAGAAAT TATATTTCTA AACATTTTAT  2040
GATGTTTAAA AACAAAACAG GCTGTTGTAA AAAAAAAAAA AAAAAAAAA
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Seq ID NO: 77 Protein sequence:
Protein Accession #: NP_113627

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MASLLGAYPW PEGLECPALD AELSDGQSPP AVPRPPGDKG SESRIRRPMN AFMVWAKDER    60
KRLAVQNPDL HNAELSKMLG KSWKALTLSQ KRPYVDEAER LRLQHMQDYP NYKYRPRRKK   120
QAKRLCKRVD PGFLLSSLSR DQNALPEKRS GSRGALGEKE DRGEYSPGTA LPSLRGCYHE   180
GPAGGGGGGT PSSVDTYPYG LPTPPEMSPL DVLEPEQTFF SSPCQEEHGH PRRIPHLPGH   240
PYSPEYAPSP LHCSHPLGSL ALGQSPGVSM MSPVPGCPPS PAYYSPATYH PLHSNLQAHL   300
GQLSPPPEHP GFDALDQLSQ VELLGDMDRN EFDQYLNTPG HPDSATGAMA LSGHVPVSQV   360
TPTGPTETSL ISVLADATAT YYNSYSVS
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Seq ID NO: 78 Nucleotide sequence:
Nucleic Acid Accession #: XM_035787
Coding sequence: 329..949 (underlined sequences correspond to start and stop codons)

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TGCCCCGCCC CGCTCCCCAG CGCCCCGGAA GTGATCTGTG GCGGCTGCTG CAGAGCCGCC    60
AGGAGGAGGG TGGATCTCCC CAGAGCAAAG CGTCGGAGTC CTCCTCCTCC TTCTCCTCCT   120
CCTCCTCCTC CTCCTCCAGC CGCCCAGGCT CCCCCGCCAC CCGTCAGACT CCTCCTTCGA   180
CCGCTCCCGG CGCGGGGCCT TCCAGGCGAC AAGGACCGAG TACCCTCCGG CCGGAGCCAC   240
GCAGCCGCGG CTTCCGGAGC CCTCGGGGCG GCGGACTGGC TCGCGGTGCA GATTCTTCTT   300
AATCCTTTGG TGAAAACTGA GACACAAAAT GGCTGCAAAT AAGCCCAAGG GTCAGAATTC   360
TTTGGCTTTA CACAAAGTCA TCATGGTGGG CAGTGGTGGC GTGGGCAAGT CAGCTCTGAC   420
TCTACAGTTC ATGTACGATG AGTTTGTGGA GGACTATGAG CCTACCAAAG CAGACAGCTA   480
TCGGAAGAAG GTAGTGCTAG ATGGGGAGGA AGTCCAGATC GATATCTTAG ATACAGCTGG   540
GCAGGAGGAC TACGCTGCAA TTAGAGACAA CTACTTCCGA AGTGGGGAGG GGTTCCTCTG   600
TGTTTTCTCT ATTACAGAAA TGGAATCCTT TGCAGCTACA GCTGACTTCA GGGAGCAGAT   660
TTTAAGAGTA AAAGAAGATG AGAATGTTCC ATTTCTACTG GTTGGTAACA AATCAGATTT   720
AGAAGATAAA AGACAGGTTT CTGTAGAAGA GGCAAAAAAC AGAGCTGAGC AGTGGAATGT   780
TAACTACGTG GAAACATCTG CTAAAACACG AGCTAATGTT GACAAGGTAT TTTTTGATTT   840
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AATGAGAGAA ATTCGAGCGA GAAAGATGGA AGACAGCAAA GAAAAGAATG GAAAAAAGAA   900
GAGGAAAAGT TTAGCCAAGA GAATCAGAGA AAGATGCTGC ATTTTATAAT CAAAGCCCAA   960
ACTCCTTTCT TATCTTGACC ATACTAATAA ATATAATTTA TAAGCATTGC CATTGAAGGC  1020
TTAATTGACT GAAATTACTT TAACATTTTG GAAATTGTTG TATATCACTA AAAGCATGAA  1080
TTGGAACTGC AATGAAAGTC AAATTTACTT TAAAAAGAAA TTAATATGGC TTCACCAAGA  1140
AGCAAAGTTC AACTTATTTC ATAATTGCCT ACATTTATCA TGGTCCTGAA TGTAGCGTGT  1200
AAGCTTGTGT TTCTTGGGCA GTCTTTCTTG AAATTGAAGA GGTGAAATGG GGGTGGGGAG  1260
TGGGAGGAAA GGTGACTTCC TCTGGTGTTT ATTATAAAGC TTAAATTTTA TATCATTTTA  1320
AAATGTCTTG GTCTTCTACT GCCTTGAAAA ATGACAATTG TGAACATGAT AGTTAAACTA  1380
CCACTTTTTT TAACCATTAT TATGCAAAAT TTAGAAGAAA AGTTATTGGC ATGGTTGTTG  1440
CATATAGTTA AACTGAGAGT AATTCATCTG TGAATCTGCT TTAATTACCT GGTGAGTAAC  1500
TTAGAAAAGT GGTGTAAACT TGTACATGGA ATTTTTTGAA TATGCCTTAA TTTAGAAACT  1560
GAAAAATATC TGGTTATATC ATTCTGGGTG TGTTCTTACT GACACCAGGG GTCCGCTGCC  1620
CCATGTGTCC TGGTGAGAAA ATATATGCCT GGCACAGCTT TTGTATAGAA AATTCTTGAG  1680
AAGTAACTGT CCGCTAGAAG TCTGTCCAAA TTTAAAATGT GTGCCATATT CTGGTTCTTG  1740
AAAATAAGAT TCCAGAGCTC TTTGATCGCT TTTAATAAAC TGCAAGTTCA TTTTAAATGA  1800
AGGGCCAGCA TATATACTTG CAAGATAATT TTCAGCTGCA AGGATTCAGC ACCAGTTATG  1860
TTTGAATGAA CCCTCCTTTT CTCTGAGATT CTGGTCCCTG GAAATCCCTT TCTGCTAGTG  1920
GTGAGCATGT AAGTGTTAAG TTTTTAATCT GGGAGCAGGG CATAGGAAGA AAATGTCAGT  1980
AGTGCTAATG CATTTTGCAC TAGAACGCTT CGGGAAAATA TTCATGCTTG CCATCTGTTC  2040
ATTTCTAAAT TTATATTCAT AAAGTTACAG TTTGATACAG GAATTATTAG GAGTAATTCT  2100
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CCATCAAACC TGGGTATAGT GCAGAAAACG TGGCACACAC TGACCACACA TTAGGCTGTG  2220
TCACCATTGT GTGGTGTACC TGCTGGAAGA ATTCTAGCAT GCTACTTGGG GACATAATTT  2280
CAGTGGGAAA TATGCCACTG ACCGATTTTT TTTTTTTCCT CTTTGCAGTG GGGCTAGGAC  2340
AGTTGATTCA ACAAAGTATT TTTTTCTTTT TTCTCAGTCC TAATTTGAAC AGGTCAAAGA  2400
TGTGTTCAGG CATTCCAGGT AACAGGTGTG TATGTAAAGT TAAAAATAGG CTTTTTAGGA  2460
ACTCACTCTT TAGATATTTA CATCCAGCTT CTCATGTTAA ATATTTGTCC TTAAAGGGTT  2520
TGAGATGTAC ATCTTTCATT TCGTATTTCT CATAGGCTAT GCCATGTGCG GAATTCAAGT  2580
TACCAATGTA ACACTGGCCA GCGGGCCCAG CAATCTCCAT GTGTACTTAT TACAGTCTTA  2640
TTTAACCAGG GGTCCTAACC ACTAACATTG TGACTTTGCT TTGAGACCTT TCCTCTCCTG  2700
GGTACTGAGG TGCTATGAAG CCAACTGACA AAGATGCATC ACGTGTCTTA GGCTGATGCC  2760
ACTACCCGAT TTGTTTATTT GCAATTTGAG CCATTTAAAG ACCAATAAAC TTCCTTTTTT
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Seq ID NO: 79 Protein sequence:
Protein Accession #: XP_035787

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1          11         21         31         41         51
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MAANKPKGQN SLALHKVIMV GSGGVGKSAL TLQFMYDEFV EDYEPTKADS YRKKVVLDGE    60
EVQIDILDTA GQEDYAAIRD NYFRSGEGFL CVFSITEMES FAATADFREQ ILRVKEDENV   120
PFLLVGNKSD LEDKRQVSVE EAKNRAEQWN VNYVETSAKT RANVDKVFFD LMREIRARKM   180
EDSKEKNGKK KRKSLAKRIR ERCCIL
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Seq ID NO: 80 Nucleotide sequence:
Nucleic Acid Accession #: NM_003467
Coding sequence: 89..1147 (underlined sequences correspond to start and stop codons)

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CACCGCATCT GGAGAACCAG CGGTTACCAT GGAGGGGATC AGTATATACA CTTCAGATAA   120
CTACACCGAG GAAATGGGCT CAGGGGACTA TGACTCCATG AAGGAACCCT GTTTCCGTGA   180
AGAAAATGCT AATTTCAATA AAATCTTCCT GCCCACCATC TACTCCATCA TCTTCTTAAC   240
TGGCATTGTG GGCAATGGAT TGGTCATCCT GGTCATGGGT TACCAGAAGA AACTGAGAAG   300
CATGACGGAC AAGTACAGGC TGCACCTGTC AGTGGCCGAC CTCCTCTTTG TCATCACGCT   360
TCCCTTCTGG GCAGTTGATG CCGTGGCAAA CTGGTACTTT GGGAACTTCC TATGCAAGGC   420
AGTCCATGTC ATCTACACAG TCAACCTCTA CAGCAGTGTC CTCATCCTGG CCTTCATCAG   480
TCTGGACCGC TACCTGGCCA TCGTCCACGC CACCAACAGT CAGAGGCCAA GGAAGCTGTT   540
GGCTGAAAAG GTGGTCTATG TTGGCGTCTG GATCCCTGCC CTCCTGCTGA CTATTCCCGA   600
CTTCATCTTT GCCAACGTCA GTGAGGCAGA TGACAGATAT ATCTGTGACC GCTTCTACCC   660
CAATGACTTG TGGGTGGTTG TGTTCCAGTT TCAGCACATC ATGGTTGGCC TTATCCTGCC   720
TGGTATTGTC ATCCTGTCCT GCTATTGCAT TATCATCTCC AAGCTGTCAC ACTCCAAGGG   780
CCACCAGAAG CGCAAGGCCC TCAAGACCAC AGTCATCCTC ATCCTGGCTT TCTTCGCCTG   840
TTGGCTGCCT TACTACATTG GGATCAGCAT CGACTCCTTC ATCCTCCTGG AAATCATCAA   900
GCAAGGGTGT GAGTTTGAGA ACACTGTGCA CAAGTGGATT TCCATCACCG AGGCCCTAGC   960
TTTCTTCCAC TGTTGTCTGA ACCCCATCCT CTATGCTTTC CTTGGAGCCA AATTTAAAAC  1020
CTCTGCCCAG CACGCACTCA CCTCTGTGAG CAGAGGGTCC AGCCTCAAGA TCCTCTCCAA  1080
AGGAAAGCGA GGTGGACATT CATCTGTTTC CACTGAGTCT GAGTCTTCAA GTTTTCACTC  1140
CAGCTAACAC AGATGTAAAA GACTTTTTTT TATACGATAA ATAACTTTTT TTTAAGTTAC  1200
ACATTTTTCA GATATAAAAG ACTGACCAAT ATTGTACAGT TTTTATTGCT TGTTGGATTT  1260
TTGTCTTGTG TTTCTTTAGT TTTTGTGAAG TTTAATTGAC TTATTTATAT AAATTTTTTT  1320
TGTTTCATAT TGATGTGTGT CTAGGCAGGA CCTGTGGCCA AGTTCTTAGT TGCTGTATGT  1380
CTCGTGGTAG GACTGTAGAA AAGGGAACTG AACATTCCAG AGCGTGTAGT GAATCACGTA  1440
AAGCTAGAAA TGATCCCCAG CTGTTTATGC ATAGATAATC TCTCCATTCC CGTGGAACGT  1500
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TTTTCCTGTT CTTAAGACGT GATTTTGCTG TAGAAGATGG CACTTATAAC CAAAGCCCAA  1560
AGTGGTATAG AAATGCTGGT TTTTCAGTTT TCAGGAGTGG GTTGATTTCA GCACCTACAG  1620
TGTACAGTCT TGTATTAAGT TGTTAATAAA AGTACATGTT AAACTTACTT AGTGTTATG
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Seq ID NO: 81 Protein sequence:
Protein Accession #: NP_003458

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1          11         21         31         41         51
|          |          |          |          |          |
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LVMGYQKKLR SMTDKYRLHL SVADLLFVIT LPFWAVDAVA NWYFGNFLCK AVHVIYTVNL   120
YSSVLILAFI SLDRYLAIVH ATNSQRPRKL LAEKVVYVGV WIPALLLTIP DFIFANVSEA   180
DDRYICDRFY PNDLWVVVFQ FQHIMVGLIL PGIVILSCYC IIISKLSHSK GHQKRKALKT   240
TVILILAFFA CWLPYYIGIS IDSFILLEII KQGCEFENTV HKWISITEAL AFFHCCLNPI   300
LYAFLGAKFK TSAQHALTSV SRGSSLKILS KGKRGGHSSV STESESSSFH SS
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Seq ID NO: 82 Nucleotide sequence:
Nucleic Acid Accession #: NM_014959
Coding sequence: 314..1609 (underlined sequences correspond to start and stop codons)

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GGGAAACAAG CTCTCAGGAC TTCCGGTCGC CATGATGGCT GTGGGCGGTA AACGCGGTTA   120
GTGCAAGCAT CTGGGCCATC TTCAATGGTA AAAAAGATAC AGTAAAGACA TAAATACCAC   180
ATTTGACAAA TGGAAAAAAA GGAGTGTCCA GAAAAGAGTA GCAGCAGTGA GGAAGAGCTG   240
CCGAGACGGG TATACAGGGA GCTACCCTGT GTTTCTGAGA CCCTTTGTGA CATCTCACAT   300
TTTTTCCAAG AAGATGATGA GACAGAGGCA GAGCCATTAT TGTTCCGTGC TGTTCCTGAG   360
TGTCAACTAT CTGGGGGGGA CATTCCCAGG AGACATTTGC TCAGAAGAGA ATCAAATAGT   420
TTCCTCTTAT GCTTCTAAAG TCTGTTTTGA GATCGAAGAA GATTATAAAA ATCGTCAGTT   480
TCTGGGGCCT GAAGGAAATG TGGATGTTGA GTTGATTGAT AAGAGCACAA ACAGATACAG   540
CGTTTGGTTC CCCACTGCTG GCTGGTATCT GTGGTCAGCC ACAGGCCTCG GCTTCCTGGT   600
AAGGGATGAG GTCACAGTGA CGATTGCGTT TGGTTCCTGG AGTCAGCACC TGGCCCTGGA   660
CCTGCAGCAC CATGAACAGT GGCTGGTGGG CGGCCCCTTG TTTGATGTCA CTGCAGAGCC   720
AGAGGAGGCT GTCGCCGAAA TCCACCTCCC CCACTTCATC TCCCTCCAAG GTGAGGTGGA   780
CGTCTCCTGG TTTCTCGTTG CCCATTTTAA GAATGAAGGG ATGGTCCTGG AGCATCCAGC   840
CCGGGTGGAG CCTTTCTATG CTGTCCTGGA AAGCCCCAGC TTCTCTCTGA TGGGCATCCT   900
GCTGCGGATC GCCAGTGGGA CTCGCCTCTC CATCCCCATC ACTTCCAACA CATTGATCTA   960
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GCCCCCAATG GAACCCCTGA ACTTTGGTTC CAGTTATATT GTGTCTAATT CTGCTAACCT  1140
GAAAGTAATG CCCAAGGAGT TGAAATTGTC CTACAGGAGC CCTGGAGAAA TTCAGCACTT  1200
CTCAAAATTC TATGCTGGGC AGATGAAGGA ACCCATTCAA CTTGAGATTA CTGAAAAAAG  1260
ACATGGGACT TTGGTGTGGG ATACTGAGGT GAAGCCAGTG GATCTCCAGC TTGTAGCTGC  1320
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AGCCAGGATG GGGGACCTGA AAGGGGTGCT CGATGATCTC CAGGACAATG AGGTTCTTAC  1440
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TAGGTAGTCT GGAAGAGAGA ATCCAGCGTT CTCATTGGAA ATGGATAAAC AGAAATGTGA  1680
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GTGTTTATGA AGGATGGGGC CTGGAAAGGC AACTTTTCCT GATTAATGTG AAAAATAATT  1980
CCTATGGACA CTCCGTTTGA AGTATCACCT TCTCATAACT AAAAGCAGAA AAGCTAACAA  2040
AAGCTTCTCA GCTGAGGACA CTCAAGGCAT ACATGATGAC AGTCTTTTTT TTTTTTGTAT  2100
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CTGAGATGAA ATGTGGTAAA TCAACTCCAC AGAACCACCA AAAAGAAAAT GAGGGTAATT  2340
CAGCTTATTC TGAGACAGAC ATTCCTGGCA ATGTACCATA CAAAAAATAA GCCAACTCTG  2400
ACATTTGGAT TCTACCATAG ACTCTGTCAT TTTGTAGCCA TTTCAGCTGT CTTTTGATTA  2460
ATGTTTTCGT GGCACACATA TTTCCATCCT TTTATGTTTA ATCTGTTTAA AACAAGTTCC  2520
TAGTAGACAC CATCTGGTTG AGTCAGTTTT TTTTATGGTG TATTTTGAAC CCATTCTGAT  2580
AGTCTCTTTT AACTGGAAGA TTTCAATTAC TTACGTTAAT GTAATTATTA ATATGTTAGG  2640
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CCACTTAAAG TGGAATCTAG GCACTTTATC ACCATTTAGA TCCTATTACC TTTTCTCATC  2760
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TTATGTTTTT CCAGATATTT ACCATTTCTG TTGCTCTTCC TTCATTATTT TCCAAATTTC  2940
GTTCTGCAAA TTTCCACTTC TTCTGATAGA CGTTTTTTAG TTCTTTTAGA GTGGTTCTGA  3000
TAGGTACAGA TTCTCTTATT TTTTGCTTCC TCTGAGGACA TCTTTTTCTC ACCTTCATTC  3060
TCAGTGATGT TTTTTGCTTG TAGTATTTTT AGTTGACATT GTTTTCTGTT CAGCAGTTTC  3120
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CTTTTAGCTT CCGTATTTCC TGATGAGAAA TCTGCAGTCA TTCAAATTGT TGTTTCCCTG  3180
TATGTAGTGT GTCATTTTTC TGTCAGATTT CAAGGTATTT ATCTTTAGTT TTTAGCCATT  3240
TCATTATGTT GGGGATGAGT TTCCTTGTTT TATTCCCTTT GGAATTTGCT CCAATTCATA  3300
AATTTGCAGT TTTATGTCTT TTACCAAACT TAGAGGTTTT CAGCCTAATT TCTAAAAATA  3360
CTTTTTATTA GCCTGATTTT CATCTTTATA GGAAATAGTT TAAGTGATGA CAAGTTCCAA  3420
TAGCTTATAT GCCCAGAAGG CCTTCAAAAT AAGAATTTTG AAAGAATACA GAAAACAAAC  3480
TTTTATATCC TTCTCATGTC TTCTACTGTA AAATTCATAT GCTTTGCTAC TCTAAACCTA  3540
GTTTGAAATC AACAGTCTTG AGAATAGATG AAAATTTTGA TGAATAGTGG AATTCTTTTA  3600
AATGGAAACC TCTTACATGT GATTTTCCTT GCCATCTAGA AATAAACCAT AGTATTTATG  3660
TTGAATCAAT CAATATTATA TTTTGTTTTT TTCCTCCTCT TCTGAGACTC TTATTGTGGA  3720
AATGTTAGAC TTTTATGTTT TCCTAAATGT CCCTGATATT CTACTTATTT AGAACATCTT  3780
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TGGTCACTGT ATGTATCAGT TCTAAAATTT CCATTTTGTT CTCTATATTT TAAATTTCTT  3960
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CTGCAACCTC TGCCTCCTGG TTCAAGCGAT TATTGTGCCT CAGCCTCCTG AGTAGCTGGG  4140
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TTTTTTTTTT TTGAGATGGA GTCTCGCTCT GTCATCTAGG CTGGAGTGCA GTGGTGTGAT  4380
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AGTAGCTAGG ACTACAGGTG CATGCCAACA CGCCCGGCTA ATTTTTTTAA AAAATATTTT  4500
TAGTAGAGAC AGGGTTTCAC CATTTTGGCC AGGATGGTCT CGATCTCCTG ACCTCATGAT  4560
CCACCCGCCT CGGCCTTCCA AAGTGCTGGG ATTACAGGCA TGAGCCACCG TGCCTGGCCT  4620
CATTTGAGTA TTTTTATAAT GTCTCTTTTA AAGTCTTTGT CAGATAATTC CACTGTACAT  4680
GTTATTCAGT GTTTGGTGTC CACTGAGTTG TCATTTGCCA GACAAGTGGA GATTTTTGCA  4740
GCTCATCCTT GTATTCTCAG TAGTTCCGAT ATGTACCCTC GACATGTGAA TGTTATCTTA  4800
TGAGACTCTG TTTTATTTGT ATCCAACAGA AGATGTTTAT TATTTATTTG GCTTTCTGTG  4860
AACTGAGGTC TTAATATCAG CTCATTTTAA AAGTCTTTGC AGTGGTATTC GGATCTATCC  4920
TGTGTGTGCC TATGAGATTG GGTGCAGTGT ATCCTGTTAG CTCCATTCTC AGGGCGTTTG  4980
AATGTGAATT AGGACCAGCG CAATGAATGC TCAAGTTGGG GTTGGGCGTT AGAATTCATA  5040
AAAGTCTTTA TATGCTCAG
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Seq ID NO: 83 <u>Protein sequence:</u>
Protein Accession #: NP_055774

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|          |          |          |          |          |
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GNVDVELIDK STNRYSVWFP TAGWYLWSAT GLGFLVRDEV TVTIAFGSWS QHLALDLQHH   120
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FYAVLESPSF SLMGILLRIA SGTRLSIPIT SNTLIYYHPH PEDIKFHLYL VPSDALLTKA   240
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Seq ID NO: 84 <u>Nucleotide sequence:</u>
Nucleic Acid Accession #: NM_007036
Coding sequence: 56-610 (underlined sequences correspond to start and stop codons)

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Seq ID NO: 85 Protein sequence:
Protein Accession #: NP_008967.1

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Seq ID NO: 86 Nucleotide sequence:
Nucleic Acid Accession #: D86983
Coding sequence: 52-4491 (underlined sequences correspond to start and stop codons)

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Seq ID NO: 87 Protein sequence:
Protein Accession #: BAA13219

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Seq ID NO: 88 <u>DNA sequence</u>
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AAATAAATCA AGGCTGCAAT GCAGCTGGTG CTGTTCAGAT TCCAAAAAAA AAAAAAAACC  3840
ATGGTACCCG GATCCTCGAA TTCC
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Seq ID No: 89 <u>Protein sequence:</u>
Protein Accession #: NP_004825.1

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1          11         21         31         41         51
|          |          |          |          |          |
MANDSPAKSL VDIDLSSLRD PAGIFELVEV VGNGTYGQVY KGRHVKTGQL AAIKVMDVTE    60
DEEEEIKLEI NMLKKYSHHR NIATYYGAFI KKSPPGHDDQ LWLVMEFCGA GSITDLVKNT   120
KGNTLKEDWI AYISREILRG LAHLHIHHVI HRDIKGQNVL LTENAEVKLV DFGVSAQLDR   180
TVGRRNTFIG TPYWMAPEVI ACDENPDATY DYRSDLWSCG ITAIEMAEGA PPLCDMHPMR   240
ALFLIPRNPP PRLKSKKWSK KFFSFIEGCL VKNYMQRPST EQLLKHPFIR DQPNERQVRI   300
QLKDHIDRTR KKRGEKDETE YEYSGSEEEE EEVPEQEGEP SSIVNVPGES TLRRDFLRLQ   360
QENKERSEAL RRQQLLQEQQ LREQEEYKRQ LLAERQKRIE QQKEQRRRLE EQQRREREAR   420
RQQEREQRRR EQEEKRRLEE LERRRKEEEE RRRAEEEKRR VEREQEYIRR QLEEEQRHLE   480
VLQQQLLQEQ AMLLHDHRRP HPQHSQQPPP PQQERSKPSF HAPEPKAHYE PADRAREVPV   540
RTTSRSPVLS RRDSPLQGSG QQNSQAGQRN STSIEPRLLW ERVEKLVPRP GSGSSSGSSN   600
SGSQPGSHPG SQSGSGERFR VRSSSKSEGS PSQRLENAVK KPEDKKEVFR PLKPAGEVDL   660
TALAKELRAV EDVRPPHKVT DYSSSSEESG TTDEEDDDVE QEGADESTSG PEDTRAASSL   720
NLSNGETESV KTMIVHDDVE SEPAMTPSKE GTLIVRQTQS ASSTLQKHKS SSSFTPFIDP   780
RLLQISPSSG TTVTSVVGFS CDGMRPEAIR QDPTRKGSVV NVNPTNTRPQ SDTPEIRKYK   840
KRFNSEILCA ALWGVNLLVG TESGLMLLDR SGQGKVYPLI NRRRFQQMDV LEGLNVLVTI   900
SGKKDKLRVY YLSWLRNKIL HNDPEVEKKQ GWTTVGDLEG CVHYKVVKYE RIKFLVIALK   960
SSVEVYAWAP KPYHKFMAFK SFGELVHKPL LVDLTVEEGQ RLKVIYGSCA GFHAVDVDSG  1020
SVYDIYLPTH VRKNPHSMIQ CSIKPHAIII LPNTDGMELL VCYEDEGVYV NTYGRITKDV  1080
VLQWGEMPTS VAYIRSNQTM GWGEKAIEIR SVETGHLDGV FMHKRAQRLK FLCERNDKVF  1140
FASVRSGGSS QVYFMTLGRT SLLSW
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Seq ID NO: 90 <u>DNA sequence</u>
Nucleic Acid Accession #: none found
Coding sequence: 2-71 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
TTACACTTCA ATTCCTTACA CGGTATTTCA AACAAACAGT TTTGCTGAGA GGAGCTTTTG    60
TCTCTCCTTA AGAAAATGTT TATAAAGCTG AAAGGAAATC AAACAGTAAT CTTAAAAATG   120
AAAACAAAAC AACCCAACAA CCTAGATAAC TACAGTGATC AGGGAGCACA GTTCAACTCC   180
TTGTTATGTT TTAGTCATAT GGCCTACTCA AACAGCTAAA TAACAACACC AGTGGCAGAT   240
AAAAATCACC ATTTATCTTT CAGCTATTAA TCTTTTGAAT GAATAAACTG TGACAAACAA   300
ATTAACATTT TTGAACATGA AAGGCAACTT CTGCACAATC CTGTATCCAA GCAAACTTTA   360
AATTATCCAC TTAATTATTA CTTAATCTTA AAAAAAATTA GAACCCAGAA CTTTTCAATG   420
AAGCATTTGA AAGTTGAAGT GGAATTTAGG AAAGCCATAA AAATATAAAT ACTGTTATCA   480
CAGCACCAGC AAGCCATAAT CTTTATACCT ATCAGTTCTA TTTCTATTAA CAGTAAAAAC   540
ATTAAGCAAG ATATAAGACT ACCTGCCCAA GAATTCAGTC TTTTTTCATT TTTGTTTTTC   600
TCAGTTCTGA GGATGTTAAT CGTCAAATTT TCTTTGGACT GCATTCCTCA CTACTTTTTG   660
CACAATGGTC TCACGTTCTC ACATTTGTTC TCGCGAATAA ATTGATAAAA GGTGTTAAGT   720
TCTGTGAATG TCTTTTTAAT TATGGGCATA ATTGTGCTTG ACTGGATAAA AACTTAAGTC   780
CACCCTTATG TTTATAATAA TTTCTTGAGA ACAGCAAACT GCATTTACCA TCGTAAAACA   840
ACATCTGACT TACGGGAGCT GCAGGGAAGT GGTGAGACAG TTCGAACGGC TCCTCAGAAA   900
TCCAGTGACC CAATTCTAAA GACCATAGCA CCTGCAAGTG ACACAACAAG CAGATTTATT   960
ATACATTTAT TAGCCTTAGC AGGCAATAAA CCAAGAATCA CTTTGAAGAC ACAGCAAAAA  1020
GTGATACACT CCGCAGATCT GAAATAGATG TGTTCTCAGA CAACAAAGTC CCTTCAGAAT  1080
CTTCATGTTG CATAAATGTT ATGAATATTA ATAAAAAGTT GATTGAGA
```

Seq ID No: 91 <u>Protein sequence:</u>
Protein Accession #: none found

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1          11         21         31         41         51
|          |          |          |          |          |
YTSIPYTVFQ TNSFAERSFC LSL
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Seq ID NO: 92 <u>DNA sequence</u>
Nucleic Acid Accession #: NM_003706.1
Coding sequence: 310-1935 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
CACGAGGCAG GGGCCATTTT ACCTCCAGGT TGGCCCTGCT CAGGACCAGG AGGAAACACC    60
```

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TCCAGCCCGC GACCTCCTCC CACAGGGGGA AAAGGAAAGC AGGAGGACCA CAGAAGCTTT   120
GGCACCGAGG ATCCCCGCAG TCTTCACCCG CGGAGATTCC GGCTGAAGGA GCTGTCCAGC   180
GACTACACCG CTAAGCGCAG GGAGCCCAAG CCTCCGCACC GGATTCCGGA GCACAAGCTC   240
CACCGCGCAT GCGCACACGC CCCAGACCCA GGCTCAGGAG GACTGAGAAT TTTCTGACCG   300
CAGTGCACCA TGGGAAGCTC TGAAGTTTCC ATAATTCCTG GGCTCCAGAA AGAAGAAAAG   360
GCGGCCGTGG AGAGACGAAG ACTTCATGTG CTGAAAGCTC TGAAGAAGCT AAGGATTGAG   420
GCTGATGAGG CCCCAGTTGT TGCTGTGCTG GGCTCAGGCG GAGGACTGCG GGCTCACATT   480
GCCTGCCTTG GGGTCCTGAG TGAGATGAAA GAACAGGGCC TGTTGGATGC CGTCACGTAC   540
CTCGCAGGGG TCTCTGGATC CACTTGGGCA ATATCTTCTC TCTACACCAA TGATGGTGAC   600
ATGGAAGCTC TCGAGGCTGA CCTGAAACAT CGATTTACCC GACAGGAGTG GGACTTGGCT   660
AAGAGCCTAC AGAAAACCAT CCAAGCAGCG AGGTCTGAGA ATTACTCTCT GACCGACTTC   720
TGGGCCTACA TGGTTATCTC TAAGCAAACC AGAGAACTGC CGGAGTCTCA TTTGTCCAAT   780
ATGAAGAAGC CCGTGGAAGA AGGGACACTA CCCTACCCAA TATTTGCAGC CATTGACAAT   840
GACCTGCAAC CTTCCTGGCA GGAGGCAAGA GCACCAGAGA CCTGGTTCGA GTTCACCCCT   900
CACCACGCTG GCTTCTCTGC ACTGGGGGCC TTTGTTTCCA TAACCCACTT CGGAAGCAAA   960
TTCAAGAAGG GAAGACTGGT CAGAACTCAC CCTGAGAGAG ACCTGACTTT CCTGAGAGGT  1020
TTATGGGGAA GTGCTCTTGG TAACACTGAA GTCATTAGGG AATACATTTT TGACCAGTTA  1080
AGGAATCTGA CCCTGAAAGG TTTATGGAGA AGGGCTGTTG CTAATGCTAA AAGCATTGGA  1140
CACCTTATTT TTGCCCGATT ACTGAGGCTG CAAGAAAGTT CACAAGGGGA ACATCCTCCC  1200
CCAGAAGATG AAGGCGGTGA GCCTGAACAC ACCTGGCTGA CTGAGATGCT CGAGAATTGG  1260
ACCAGGACCT CCCTGGAAAA GCAGGAGCAG CCCCATGAGG ACCCCGAAAG GAAAGGCTCA  1320
CTCAGTAACT TGATGGATTT TGTGAAGAAA ACAGGCATTT GCGCTTCAAA GTGGGAATGG  1380
GGGACCACTC ACAACTTCCT GTACAAACAC GGTGGCATCC GGGACAAGAT AATGAGCAGC  1440
CGGAAGCACC TCCACCTGGT GGATGCTGGT TTAGCCATCA ACACTCCCTT CCCACTCGTG  1500
CTGCCCCCGA CGCGGGAGGT TCACCTCATC CTCTCCTTCG ACTTCAGTGC CGGAGATCCT  1560
TTCGAGACCA TCCGGGCTAC CACTGACTAC TGCCGCCGCC ACAAGATCCC CTTTCCCCAA  1620
GTAGAAGAGG CTGAGCTGGA TTTGTGGTCC AAGGCCCCCG CCAGCTGCTA CATCCTGAAA  1680
GGAGAAACTG GACCAGTGGT GATACATTTT CCCCTGTTCA ACATAGATGC CTGTGGAGGT  1740
GATATTGAGG CATGGAGTGA CACATACGAC ACATTCAAGC TTGCTGACAC CTACACTCTA  1800
GATGTGGTGG TGCTACTCTT GGCATTAGCC AAGAAGAATG TCAGGGAAAA CAAGAAGAAG  1860
ATCCTTAGAG AGTTGATGAA CGTGGCCGGG CTCTACTACC CGAAGGATAG TGCCCGAAGT  1920
TGCTGCTTGG CATAGATGAG CCTCAGCTTC CAGGGCACTG TGGGCCTGTT GGTCTACTAG  1980
GGCCCTGAAG TCCACCTGGC CTTCCTGTTC TTCACTCCCT TCAGCCACAC GCTTCATGGC  2040
CTTGAGTTCA CCTTGGCTGT CCTAACAGGG CCAATCACCA GTGACCAGCT AGACTGTGAT  2100
TTTGATAGCG TCATTCAGAA GAAGGTGTCC AAGGAGCTGA AGGTGGTGAA ATTTGTCCTG  2160
CAGGTCCCTC GGGAGATCCT GGAGCTGGAG CATGAGTGTC TGACAATCAG AAGCATCATG  2220
TCCAATGTCC AGATGGCCAG AATGAATGTG ATAGTTCAGA CCAATGCCTT CCACTGCTCC  2280
TTTATGACTG CACTTCTAGC CAGTAGCTCT GCACAAGTTA GCTCTGTAGA AGTAAGAACT  2340
TGGGCTTAAA TCATGGGCTA TCTCTCCACA GCCAAGTGGA GCTCTGAGAA TACAACAAGT  2400
GCTCAATAAA TGCTTGCTGA TTGACTGATG AAAAAAAAAA AAAAAAAAAA AAAAAAAAAA  2460
AAAAAAAAAA AAAAAAAAAA AAAAAAAAAA AAAA
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Seq ID No: 93 Protein sequence:
Protein Accession #: NP_003697.1

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1          11         21         31         41         51
|          |          |          |          |          |
MGSSEVSIIP GLQKEEKAAV ERRRLHVLKA LKKLRIEADE APVVAVLGSG GGLRAHIACL    60
GVLSEMKEQG LLDAVTYLAG VSGSTWAISS LYTNDGDMEA LEADLKHRFT RQEWDLAKSL   120
QKTIQAARSE NYSLTDFWAY MVISKQTREL PESHLSNMKK PVEEGTLPYP IFAAIDNDLQ   180
PSWQEARAPE TWFEFTPHHA GFSALGAFVS ITHFGSKFKK GRLVRTHPER DLTFLRGLWG   240
SALGNTEVIR EYIFDQLRNL TLKGLWRRAV ANAKSIGHLI FARLLRLQES SQGEHPPPED   300
EGGEPEHTWL TEMLENWTRT SLEKQEQPHE DPERKGSLSN LMDFVKKTGI CASKWEWGTT   360
HNFLYKHGGI RDKIMSSRKH LHLVDAGLAI NTPFPLVLPP TREVHLILSF DFSAGDPFET   420
IRATTDYCRR HKIPFPQVEE AELDLWSKAP ASCYILKGET GPVVIHFPLF NIDACGGDIE   480
AWSDTYDTFK LADTYTLDVV VLLLALAKKN VRENKKKILR ELMNVAGLYY PKDSARSCCL   540
A
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Seq ID NO: 94 DNA sequence
Nucleic Acid Accession #: AK027351
Coding sequence: 1-642 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
AGGGAAAAAA ACTCCATTAA AAAGCCCAGC TTTCCTCCAT GTTAGATGTG ACTTGGAAAA    60
TGAGAAAGAT TTAGCAAAAT TCCACCGTAT CTTTTGCCAG GCTAGAGACA GGGAGAGCAG   120
AGTAAAACCC TCAGGCTGCT GAAATTTCTA GGCTGTTAGG AAGCCCCTCG AATTCTGTGA   180
AAATGAGGGT TTCTTAACTC ACACTGAGAG CGGAAAGGGG CAGACCCTTT TCATAACTCC   240
CTCAAGTGTG TGTTACCTTT CTTTACCAGC ATGGTAAGCA ACAGGACATA TCCCAGCCTC   300
GGACATGTCT GTATGATCCA AGGTACCCAA AGTCAGACAG AGTAAACTCA AGCCTGGCAC   360
TGGCTTTCTG CCGCTTCATG TGCTTTGGAA AAAGCAGGAG AAGCAATAGC AGCAGGAGTC   420
CCCAGCAGCT GGAGCCGCAA GAATGAACTG CAAAGAGGGA ACTGACAGCA GCTGCGGCTG   480
CAGGGGCAAC GACGAGAAGA AGATGTTGAA GTGTGTGGTG GTGGGGGACG GTGCCGTGGG   540
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GAAAACCTGC CTGCTGATGA GCTACGCCAA CGACGCCTTC CCAGAGGAAT ACGTGCCCAC   600
TGTGTTTGAC CACTATGCAG TTACTGTGAC TGTGGGAGGC AAGCAACACT TGCTCGGACT   660
GTATGACACC GCGGGACAGG AGGACTACAA CCAGCTGAGG CCACTCTCCT ACCCCAACAC   720
GGATGTGTTT TTGATCTGCT TCTCTGTCGT AAACCCTGCC TCTTACCACA ATGTCCAGGA   780
GGAATGGGTC CCCGAGCTCA AGGACTGCAT GCCTCACGTG CCTTATGTCC TCATAGGGAC   840
CCAGATTGAT CTCCGTGATG ACCCAAAAAC CTTGGCCCGT TTGCTGTATA TGAAAGAGAA   900
ACCTCTCACT TACGAGCATG GTGTGAAGCT CGCAAAAGCG ATCGGAGCAC AGTGCTACTT   960
GGAATGTTCA GCTCTGACTC AGAAAGGTCT CAAAGCGGTT TTTGATGAAG CAATCCTCAC  1020
CATTTTCCAC CCCAAGAAAA AGAAGAAACG CTGTTCTGAG GGTCACAGCT GCTGTTCAAT  1080
TATCTGAGGT TGTCTGGGAC CTGCCTCCAC CCCATCCAGG GATGAGAATG GCAGCCAATC  1140
TCTGTGGCCA AGCTCCAGCC AAAAAGGAGG GCACGACCAG AAAGGAACTC CCTTTGCACG  1200
GAGGCTTGCC CCATCACCCT CTGAGCCCTC CCAACACAGC ACACTAGTCA GCCCACTGCC  1260
ACGACCTCCC TGCCAGCCAG AAGCATCCGT ACTGCACGCT GTCTGAGAAT GCTGGGCCTG  1320
GATTGCAGAC AGTGCCGCTG CTGATCGCAT CAAAAACAAA GTCAAAGGCC ATCTCACATT  1380
TTACAAATCC CCAGCTCATG AACGTGAAGC TGATAGGAAA TCACCCCAGG GAACCCGAAA  1440
AAGAAACTTG ATTCCTCTAT TGCTGGCCTT ACTTGATGTC TTTTATAAAA CTTGGGACTA  1500
CAATACTAAC CTTTTTTTCT GAATCTGCTG TTCTACCCAT GTGTCTCACA TTCATTTGTA  1560
TTATTTCAAG AAATGTACTA ATTTCCAGTT CACTCAGGCC TTACTAATCC ATACCAAATT  1620
AGCCTAAAGA CAAGGCATTT TATATTCATT TCTATTTTCA GCATGTTTCT ACCAAAGCTA  1680
TTAGAACCAA CACGTACCTC TGAATGCCCG ATTATAAGAA GACATGAGAA GACTTTAAAA  1740
GTTTTGGAAA TTTACAGAGC CATGATTTTT GAACCTAATT GAAAGAAAAC CATCTGAATT  1800
GTTGCAGGTC CACATTTTTG CCAAAGATAC ACTCTATAGA TGCTTAGTAG TGGCCTGATT  1860
TTTTTCCATG TATTGCCACG ACAAACTAAA AATGAACTGT GTTTAAGAAT GTAGTATTTC  1920
TGTTTTTCAT CCAAGTTGAT TGGGGGAAGA ATATGGCAGG ATCCATCTTT TACAGTATTT  1980
TGTATTCAGT AAAGTGGACA TTCCTGCTCC TCCCTTCCCC CATTGCATGC CCTCTTCCTC  2040
CCTTGATTTC ACTTTCTCTC ATGCCCGGAT CCTTTTATTC TCCCCAGTTA TAACCCAGTT  2100
ATAAAAGAAA GATCTGAGCA TAAAGATACG TGTTTAAAAA TAACTAAAAG TAAAGGAAAG  2160
TGCCTTAATT TTTCTATTTG CTTCAACTGA AAGTGCTTCT CAGCTCGCCC CATGTAAGTT  2220
CTCATTCCAT GTAAATGACA TTTTCCAGTT ACAACTGGTA CTGAGATTTT GCCTCTCTCT  2280
TTCCTTACTC ATCCTCCCAA ATGTCTTTGT GGGAGCCATA TCAGTGGATA CCAAGCTCTG  2340
TATCCATTTG TCCCCTGCCC TCCACAATGT GTGACATAGA ACAGGGACTT TGGCCCTGGG  2400
AAAGCAAAAG CTCCCAGTAA GGAATCCTGT GCCCAATGAT GTAAAACAAT TCCAAACATC  2460
CAGGAATTTT TGTATCATAG AGCGAATTAC TTCCTATCTT TTCATTAGAG GCTATGAGGA  2520
CTTCTAATTA GTCTTAGTTG CTTATAAGTG CCCTGGAATC ACCCAGGTAG GCACTTAATT  2580
TTTTTTTCAG TTGCATGAGC AAAGTGCTTC TTAGTAGTGT GAAATTACAA CAACTTTAAG  2640
ACTTTCCAGA TTCAAGCTCC CACTGTTGGA AAAAGCCAGC CTTTCTAATC TCTTCTGCTA  2700
CTGGAATAAG CACTTAAGAA TTGCGTGATA GCCAGGCACC GTGGCTCATG CCTGTAATCC  2760
CAACACTTAG GGAGGCTGAG GTGGGTGGGC CGCTTGAGCT CAGGAGTTCA AGACCAGCCT  2820
GGGTAATATA GTGAGATCCT GTGTCTCTAT AAAAAAATTA AAAATTAGTC AGTTGTAGTG  2880
ACACATACCT GTAGTCCCAG CTACTCAGGA GGCTGAGGTG GAAGGATCAC TTGAGCCCAG  2940
AAGGTAAGGC TGCAGTGAGC TGTGACTGTG CCACTACACT CCAGCCTGAG TGACAGAGAA  3000
AGAACCTGTC AAAAAAAAAA AAAAAACAAC CTACATTTCA AGTACTATTT CCCTTCTCTC  3060
CCATCTAATT GCTAAAGATT TTCTTTCATA CGCACACACT CCAGTGACTG GAAAAACGGG  3120
AGTTTTCAGT CAAAGCTTGA CATTTAGAGA AAACAAGGAC TTTCTGCCTT TATAAATGGA  3180
AATCAACTGT GTATGAACTA TAACTCTGCA GAGGTTATGA ATTCATCCTT TACAAACAAT  3240
AATGAACTTT TAGTCCTGTA ATAAATGAAA TGTTATTAGG CAGCTTTGTT GCATGATTGC  3300
ATAGTTATAT CTTGCTAACG GGCCACTCAT TTCTCACTGA TGTGGATGAA AAAATGAGAG  3360
CAGTATGTTT CCAGGTGTGT GCACTCAACA GGCAAATAGC TCCCGAGGTC ACCACTTCCC  3420
TAATGGGCCA CAGGAAGTAA GTTGATCTTG ATGGGGAGAT CACGTCACCC AGAACCAGCA  3480
ACTGGATAGA GACTGTTGTT AGTGTCTGGG TAGAGCACAG GCTCCCAGGG GTCTTAAGAG  3540
CTAATTACTG AATAAAACAA TCTAGAACAA AGCAA
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Seq ID No: 95 <u>Protein sequence:</u>
Protein Accession #: CAC06611.1

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1          11         21         31         41         51
|          |          |          |          |          |
MNCKEGTDSS CGCRGNDEKK MLKCVVVGDG AVGKTCLLMS YANDAFPEEY VPTVFDHYAV    60
TVTVGGKQHL LGLYDTAGQE DYNQLRPLSY PNTDVFLICF SVVNPASYHN VQEEWVPELK   120
DCMPHVPYVL IGTQIDLRDD PKTLARLLYM KEKPLTYEHG VKLAKAIGAQ CYLECSALTQ   180
KGLKAVFDEA ILTIFHPKKK KKRCSEGHSC CSII
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Seq ID NO: 96 <u>DNA sequence</u>
Nucleic Acid Accession #: NM_003654.1
Coding sequence: 367-1602 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
GGGGAGGGCG CGGGAGGCGG AGGATGCCGC CGCGGCTGCT GCCGCCGCCG CCACCCGCGG    60
GTCCCCGGCG ACCCTACTCC AGACCCGAGG ATGGAGCCGG CGCTGGGCGC TGCAGCTGCT   120
CCCGGCGCGT CCCCGACCAG GTAGCTGGTG TCACTTCGGT GTGGTTGGAA GAAGACTTTC   180
TCCCCAGCTG CATTCCCGGA GGCGCCCTTT CGACCTGGAG GCCGGGTCTG CTGGCCACAG   240
GGCTGCCGCA CTGGCTGGGA CTGCCAGCTG GGCCTGGAGA CGCTGGTGGC TGTGGACTCC   300
CCAGCTTGGA GCAGTCCCTC TTTGACCTCA CCCCTTGGAG AAGCAGCCCC ATGAAGGTGC   360
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CCAGCCATGC AATGTTCCTG GAAGGCCGTC CTCCTCCTTG CCCTGGCCTC CATTGCCATC   420
CAGTACACGG CCATCCGCAC CTTCACCGCC AAGTCCTTTC ACACCTGCCC CGGGCTGGCA   480
GAGGCCGGGC TGGCCGAGCG ACTGTGCGAG GAGAGCCCCA CCTTCGCCTA CAACCTCTCC   540
CGCAAGACCC ACATCCTCAT CCTGGCCACC ACGCGCAGCG GCTCCTCCTT CGTGGGCCAG   600
CTCTTCAACC AGCACCTGGA CGTCTTCTAC CTGTTTGAGC CCCTCTACCA CGTCCAGAAC   660
ACGCTCATCC CCCGCTTCAC CCAGGGCAAG AGCCCGGCCG ACCGGCGGGT CATGCTAGGC   720
GCCAGCCGCG ACCTCCTGCG GAGCCTCTAC GACTGCGACC TCTACTTCCT GGAGAACTAC   780
ATCAAGCCGC CGCCGGTCAA CCACACCACC GACAGGATCT TCCGCCGCGG GGCCAGCCGG   840
GTCCTCTGCT CCCGGCCTGT GTGCGACCCT CCGGGGCCAG CCGACCTGGT CCTGGAGGAG   900
GGGGACTGTG TGCGCAAGTG CGGGCTACTC AACCTGACCG TGGCGGCCGA GGCGTGCCGC   960
GAGCGCAGCC ACGTGGCCAT CAAGACGGTG CGCGTGCCCG AGGTGAACGA CCTGCGCGCC  1020
CTGGTGGAAG ACCCGCGATT AAACCTCAAG GTCATCCAGC TGGTCCGAGA CCCCCGCGGC  1080
ATTCTGGCTT CGCGCAGCGA GACCTTCCGC GACACGTACC GGCTCTGGCG GCTCTGGTAC  1140
GGCACCGGGA GGAAACCCTA CAACCTGGAC GTGACGCAGC TGACCACGGT GTGCGAGGAC  1200
TTCTCCAACT CCGTGTCCAC CGGCCTCATG CGGCCCCCGT GGCTCAAGGG CAAGTACATG  1260
TTGGTGCGCT ACGAGGACCT GGCTCGGAAC CCTATGAAGA AGACCGAGGA GATCTACGGG  1320
TTCCTGGGCA TCCCGCTGGA CAGCCACGTG GCCCGCTGGA TCCAGAACAA CACGCGGGGC  1380
GACCCCACCC TGGGCAAGCA CAAATACGGC ACCGTGCGAA ACTCGGCGGC CACGGCCGAG  1440
AAGTGGCGCT TCCGCCTCTC CTACGACATC GTGGCCTTTG CCCAGAACGC CTGCCAGCAG  1500
GTGCTGGCCC AGCTGGGCTA CAAGATCGCC GCCTCGGAGG AGGAGCTGAA GAACCCCTCG  1560
GTCAGCCTGG TGGAGGAGCG GGACTTCCGC CCCTTCTCGT GACCCGGGCG GTGCGGGTGG  1620
GGGCGGGAGG CGCAAGGTGT CGGTTTTGAT AAAATGGACC GTTTTTAACT GTTGCCTTAT  1680
TAACCCCTCC CTCTCCCACC TCATCTTCGT GTCCTTCCTG CCCCCAGCTC ACCCCACTCC  1740
CTTCTGCCCC TTTTTTGTCT CTGAAATTTG CACTACGTCT TGGACGGGAA TCACTGGGGC  1800
AGAGGGCGCC TGAAGTAGGG TCCCGCCCCC CCCACCCCAT TCAGACACAT GGATGTTGGG  1860
TCTCTGTGCG GACGGTGACA ATGTTTACAA GCACCACATT TACACATCCA CACACGCACA  1920
CGGGCACTCG CGAGGCGACT TCTCAAGCTT TTGAATGGGT GAGTGGTCGG GTATCTAGTT  1980
TTTGCACTGT CTTACTATTC AAGGTAAGAG GATACAAACA AGAGGACCAC TTGTCTCTAA  2040
TTTATGAATG GTGTCCATCC TTTCCCCATC CCTGCCTCCT GCCCCTGACG CCCATTTCCC  2100
CCCTTAGAGC AGCGAAACTG CCCCCTCCTG CCCGCCCTTG CCTGTCGGTG AGGCAGGTTT  2160
TTACTGTGAG GTGAACGTGG ACCTGTTTCT GTTTCCAGTC TGTGGTGATG CTGTCTGTCT  2220
GTCTGAGTCT CGTGGCCGCC CCTGGACCAG TGATGACTGA TGAATCTTAT GAGCTTCTGA  2280
TTGATCTCGG GGTCCATCTG TGATATTTCT TTGTGCCAAA AAGAAAAAAA AAGAGTGGAT  2340
CAGTTTGCTA AATGAACATT GAAATTGAAA TGCTTTATCT GTGTTTTCTG TAAATAAAAG  2400
AGTGCAATAA TCACC
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Seq ID No: 97 Protein sequence:
Protein Accession #: NP_003645.1

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1          11         21         31         41         51
|          |          |          |          |          |
MQCSWKAVLL LALASIAIQY TAIRTFTAKS FHTCPGLAEA GLAERLCEES PTFAYNLSRK    60
THILILATTR SGSSFVGQLF NQHLDVFYLF EPLYHVQNTL IPRFTQGKSP ADRRVMLGAS   120
RDLLRSLYDC DLYFLENYIK PPPVNHTTDR IFRRGASRVL CSRPVCDPPG PADLVLEEGD   180
CVRKCGLLNL TVAAEACRER SHVAIKTVRV PEVNDLRALV EDPRLNLKVI QLVRDPRGIL   240
ASRSETFRDT YRLWRLWYGT GRKPYNLDVT QLTTVCEDFS NSVSTGLMRP PWLKGKYMLV   300
RYEDLARNPM KKTEEIYGFL GIPLDSHVAR WIQNNTRGDP TLGKHKYGTV RNSAATAEKW   360
RFRLSYDIVA FAQNACQQVL AQLGYKIAAS EEELKNPSVS LVEERDFRPF S
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Seq ID NO: 98 DNA sequence
Nucleic Acid Accession #: NM_002852.1
Coding sequence: 68-1213 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
CTCAAACTCA GCTCACTTGA GAGTCTCCTC CCGCCAGCTG TGGAAAGAAC TTTGCGTCTC    60
TCCAGCAATG CATCTCCTTG CGATTCTGTT TTGTGCTCTC TGGTCTGCAG TGTTGGCCGA   120
GAACTCGGAT GATTATGATC TCATGTATGT GAATTTGGAC AACGAAATAG ACAATGGACT   180
CCATCCCACT GAGGACCCCA CGCCGTGCGA CTGCGGTCAG GAGCACTCGG AATGGGACAA   240
GCTCTTCATC ATGCTGGAGA ACTCGCAGAT GAGAGAGCGC ATGCTGCTGC AAGCCACGGA   300
CGACGTCCTG CGGGGCGAGC TGCAGAGGCT GCGGGAGGAG CTGGGCCGGC TCGCGGAAAG   360
CCTGGCGAGG CCGTGCGCGC CGGGGGCTCC CGCAGAGGCC AGGCTGACCA GTGCTCTGGA   420
CGAGCTGCTG CAGGCGACCC GCGACGCGGG CCGCAGGCTG GCGCGTATGG AGGGCGCGGA   480
GGCGCAGCGC CCAGAGGAGG CGGGGCGCGC CCTGGCCGCG GTGCTAGAGG AGCTGCGGCA   540
GACGCGAGCC GACCTGCACG CGGTGCAGGG CTGGGCTGCC CGGAGCTGGC TGCCGGCAGG   600
TTGTGAAACA GCTATTTTAT TCCCAATGCG TTCCAAGAAG ATTTTTGGAA GCGTGCATCC   660
AGTGAGACCA ATGAGGCTTG AGTCTTTTAG TGCCTGCATT TGGGTCAAAG CCACAGATGT   720
ATTAAACAAA ACCATCCTGT TTTCCTATGG CACAAAGAGG AATCCATATG AAATCCAGCT   780
GTATCTCAGC TACCAATCCA TAGTGTTTGT GGTGGGTGGA GAGGAGAACA AACTGGTTGC   840
TGAAGCCATG GTTTCCCTGG GAAGGTGGAC CCACCTGTGC GGCACCTGGA ATTCAGAGGA   900
AGGGCTCACA TCCTTGTGGG TAAATGGTGA ACTGGCGGCT ACCACTGTTG AGATGGCCAC   960
AGGTCACATT GTTCCTGAGG GAGGAATCCT GCAGATTGGC CAAGAAAAGA ATGGCTGCTG  1020
TGTGGGTGGT GGCTTTGATG AAACATTAGC CTTCTCTGGG AGACTCACAG GCTTCAATAT  1080
CTGGGATAGT GTTCTTAGCA ATGAAGAGAT AAGAGAGACC GGAGGAGCAG AGTCTTGTCA  1140
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CATCCGGGG AATATTGTTG GGTGGGGAGT CACAGAGATC CAGCCACATG GAGGAGCTCA  1200
GTATGTTTCA TAAATGTTGT GAAACTCCAC TTGAAGCCAA AGAAAGAAAC TCACACTTAA  1260
AACACATGCC AGTTGGGAAG GTCTGAAAAC TCAGTGCATA ATAGGAACAC TTGAGACTAA  1320
TGAAAGAGAG AGTTGAGACC AATCTTTATT TGTACTGGCC AAATACTGAA TAAACAGTTG  1380
AAGGAAAGAC ATTGGAAAAA GCTTTTGAGG ATAATGTTAC TAGACTTTAT GCCATGGTGC  1440
TTTCAGTTTA ATGCTGTGTC TCTGTCAGAT AAACTCTCAA ATAATTAAAA AGGACTGTAT  1500
TGTTGAACAG AGGGACAATT GTTTTACTTT TCTTTGGTTA ATTTTGTTTT GGCCAGAGAT  1560
GAATTTTACA TTGGAAGAAT AACAAAATAA GATTTGTTGT CCATTGTTCA TTGTTATTGG  1620
TATGTACCTT ATTACAAAAA AAATGATGAA AACATATTTA TACTACAAGG TGACTTAACA  1680
ACTATAAATG TAGTTTATGT GTTATAATCG AATGTCACGT TTTTGAGAAG ATAGTCATAT  1740
AAGTTATATT GCAAAAGGGA TTTGTATTAA TTTAAGACTA TTTTTGTAAA GCTCTACTGT  1800
AAATAAAATA TTTTATAAAA CTAAAAAAAA AAAAAAA
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Seq ID No: 99 Protein sequence:
Protein Accession #: NP_002843.1

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1          11         21         31         41         51
|          |          |          |          |          |
MHLLAILFCA LWSAVLAENS DDYDLMYVNL DNEIDNGLHP TEDPTPCDCG QEHSEWDKLF    60
IMLENSQMRE RMLLQATDDV LRGELQRLRE ELGRLAESLA RPCAPGAPAE ARLTSALDEL   120
LQATRDAGRR LARMEGAEAQ RPEEAGRALA AVLEELRQTR ADLHAVQGWA ARSWLPAGCE   180
TAILFPMRSK KIFGSVHPVR PMRLESFSAC IWVKATDVLN KTILFSYGTK RNPYEIQLYL   240
SYQSIVFVVG GEENKLVAEA MVSLGRWTHL CGTWNSEEGL TSLWVNGELA ATTVEMATGH   300
IVPEGGILQI GQEKNGCCVG GGFDETLAFS GRLTGFNIWD SVLSNEEIRE TGGAESCHIR   360
GNIVGWGVTE IQPHGGAQYV S
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Seq ID NO: 100 DNA sequence
Nucleic Acid Accession #: NM_007351.1
Coding sequence: 72-3758 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
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CTGCTATCAA AAAGGCCATA AGGATTTTGT CCCCAAATTT CACATGAGCT ACCTTGCTTC    60
AAACTACTGA GATGAAGGGG GCAAGATTAT TTGTCCTTCT TTCTAGTTTA TGGAGTGGGG   120
GCATTGGGCT TAACAACAGT AAGCATTCTT GGACTATACC TGAGGATGGG AACTCTCAGA   180
AGACTATGCC TTCTGCTTCA GTTCCTCCAA ATAAAATACA AAGTTTGCAA ATACTGCCAA   240
CCACTCGGGT CATGTCGGCG GAGATAGCTA CAACTCCAGA GGCAAGAACT TCTGAAGACA   300
GTCTTCTTAA ATCAACACTG CCTCCCTCAG AAACAAGTGC ACCTGCTGAG GGTGTGAGAA   360
ATCAAACTCT CACATCCACA GAGAAAGCAG AAGGAGTGGT CAAGTTACAG AATCTTACCC   420
TCCCAACCAA CGCTAGCATC AAGTTCAATC CTGGAGCAGA ATCAGTGGTC CTTTCCAATT   480
CTACACTGAA ATTTCTTCAG AGCTTTGCCA GAAAGTCAAA TGAACAAGCA ACTTCTCTAA   540
ACACAGTTGG AGGCACTGGA GGCATTGGAG GCGTTGGAGG CACTGGAGGC GTGGGAAATC   600
GAGCCCCACG GGAAACATAC CTCAGCCGGG GTGACAGCAG TTCCAGCCAA AGAACTGACT   660
ACCAAAAATC AAATTTCGAA ACAACTAGAG GAAAGAATTG GTGTGCTTAT GTACATACCA   720
GGTTATCTCC CACAGTGACA TTGGACAACC AGGTCACTTA TGTCCCAGGT GGGAAAGGAC   780
CTTGTGGCTG GACCGGTGGA TCCTGTCCTC AGAGATCTCA GAAGATATCC AATCCTGTCT   840
ATAGGATGCA ACATAAAATT GTCACCTCAT TGGATTGGAG GTGCTGTCCT GGATACAGTG   900
GGCCGAAATG TCAACTAAGA GCCCAGGAAC AGCAAAGTTT GATACACACC AACCAGGCTG   960
AAAGTCATAC AGCTGTTGGC AGAGGAGTAG CTGAGCAGCA GCAGCAGCAA GGCTGTGGTG  1020
ACCCAGAAGT GATGCAAAAA ATGACTGATC AGGTGAACTA CCAGGCAATG AAACTGACTC  1080
TTCTGCAGAA GAAGATTGAC AATATTTCTT TGACTGTGAA TGATGTAAGG AACACTTACT  1140
CCTCCCTAGA AGGAAAAGTC AGCGAAGATA AAAGCAGAGA ATTTCAATCT CTTCTAAAAG  1200
GTCTAAAATC CAAAAGCATT AATGTACTGA TAAGAGACAT AGTAAGAGAA CAATTTAAAA  1260
TTTTTCAAAA TGACATGCAA GAGACTGTAG CACAGCTCTT CAAGACTGTA TCAAGTCTAT  1320
CAGAGGACCT CGAAAGCACC AGGCAAATAA TTCAAAAAGT TAATGAATCT GTGGTTTCAA  1380
TAGCAGCCCA GCAAAAGTTT GTTTTGGTGC AAGAGAATCG GCCCACTTTG ACTGATATAG  1440
TGGAACTAAG GAATCACATT GTGAATGTAA GGCAAGAAAT GACTCTTACA TGTGAGAAGC  1500
CTATTAAAGA ACTAGAAGTA AAGCAGACTC ATTTAGAAGG TGCTCTAGAA CAGGAACACT  1560
CAAGAAGCAT TCTGTATTAT GAATCCCTCA ATAAAACTCT TTCTAAATTG AAGGAAGTAC  1620
ATGAGCAGCT TTTATCAACT GAACAGGTAT CAGACCAGAA GAATGCTCCA GCTGCTGAGT  1680
CAGTTAGCAA TAATGTCACT GAGTACATGT CTACTTTACA TGAAAATATA AAGAAGCAGA  1740
GTTTGATGAT GCTGCAAATG TTTGAAGATT TGCACATTCA AGAAAGCAAG ATTAACAATC  1800
TCACCGTCTC TTTGGAGATG GAGAAAGAGT CTCTCAGAGG TGAATGTGAA GACATGTTAT  1860
CCAAATGCAG AAATGATTTT AAATTTCAAC TTAAGGACAC AGAAGAGAAT TTACATGTGT  1920
TAAATCAAAC ATTGGCTGAA GTTCTCTTTC CAATGGACAA TAAGATGGAC AAAATGAGTG  1980
AGCAACTAAA TGATTTGACT TATGATATGG AGATCCTTCA ACCCTTGCTT GAGCAGGGAG  2040
CATCACTCAG ACAGACAATG ACATATGAAC AACCAAAGGA AGCAATAGTG ATAAGGAAAA  2100
AGATAGAAAA TCTGACTAGT GCTGTCAATA GTCTAAATTT TATTATCAAA GAACTTACAA  2160
AAAGACACAA CTTACTTAGA AATGAAGTAC AGGGTCGTGA TGATGCCTTA GAAAGACGTA  2220
TCAATGAATA TGCCTTAGAA ATGGAAGATG GCCTCAATAA GACAATGACT ATTATAAATA  2280
ATGCTATTGA TTTCATTCAA GATAACTATG CCCTAAAAGA GACTTTAAGT ACTATTAAGG  2340
ATAATAGTGA GATCCATCAT AAATGTACCT CCGATATGGA AACTATTTTG ACATTTATTC  2400
CTCAGTTCCA CCGTCTGAAT GATTCTATTC AGACTTTGGT CAATGACAAT CAGAGATATA  2460
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ACTTTGTTTT GCAAGTCGCC AAGACCCTTG CAGGTATTCC CAGAGATGAG AAACTAAATC  2520
AGTCCAACTT CCAAAAGATG TATCAAATGT TCAATGAAAC CACTTCCCAA GTGAGAAAAT  2580
ACCAGCAAAA TATGAGTCAT TTGGAAGAAA AACTACTCTT AACTACCAAG ATTTCCAAAA  2640
ATTTTGAGAC TCGGTTGCAA GACATTGAGT CTAAAGTTAC CCAGACGCTC ATACCTTATT  2700
ATATTTCAGT TAAAAAAGGC AGTGTAGTTA CAAATGAGAG AGATCAGGCT CTTCAACTGC  2760
AAGTATTAAA TTCCAGATTT AAGGCGTTGG AAGCAAAATC TATCCATCTT TCAATTAACT  2820
TCTTTTCGCT TAACAAAACT CTCCACGAAG TTTTAACAAT GTGTCACAAT GCTTCTACAA  2880
GTGTGTCAGA ACTGAATGCT ACCATCCCTA AGTGGATAAA ACATTCCCTG CCAGATATTC  2940
AACTTCTTCA GAAAGGTCTA ACAGAATTTG TGGAACCAAT AATTCAAATA AAAACTCAAG  3000
CTGCCCTATC TAATTCAACT TGTTGTATAG ATCGATCGTT GCCTGGTAGT CTGGCAAATG  3060
TTGTCAAGTC TCAGAAGCAA GTAAAATCAT TGCCAAAGAA AATTAACGCA CTTAAGAAAC  3120
CAACGGTAAA TCTTACCACA GTCCTGATAG GCCGGACTCA AAGAAACACG GACAACATAA  3180
TATATCCTGA GGAGTATTCA AGCTGTAGTC GGCATCCGTG CCAAAATGGG GGCACGTGCA  3240
TAAATGGAAG AACTAGCTTT ACCTGTGCCT GCAGACATCC TTTTACTGGT GACAACTGCA  3300
CTATCAAGCT TGTGGAAGAA AATGCTTTAG CTCCAGATTT TTCCAAAGGA TCTTACAGAT  3360
ATGCACCCAT GGTGGCATTT TTTGCATCTC ATACGTATGG AATGACTATA CCTGGTCCTA  3420
TCCTGTTTAA TAACTTGGAT GTCAATTATG GAGCTTCATA TACCCCAAGA ACTGGAAAAT  3480
TTAGAATTCC GTATCTTGGA GTATATGTTT TCAAGTACAC CATCGAGTCA TTTAGTGCTC  3540
ATATTTCTGG ATTTTTAGTG GTTGATGGAA TAGACAAGCT TGCATTTGAG TCTGAAAATA  3600
TTAACAGTGA AATACACTGT GATAGGGTTT TAACTGGGGA TGCCTTATTA GAATTAAATT  3660
ATGGGCAGGA AGTCTGGTTA CGACTTGCAA AAGGAACAAT TCCAGCCAAG TTTCCCCCTG  3720
TTACTACATT TAGTGGCTAT TTATTATATC GTACATAAGT TAGTATGAAA AACAGACTAT  3780
CACCTTTATT GAGAAACAGC CAGTGTTTTC ATTTATCTTT GCTTGCACAT CTGCTCTGTT  3840
TTGGTTTTTC TACAGGAAAT GAAAATCAAC TTGTTTTTTT AATATGAGTA AACTTGTATG  3900
TCTATTTTAT AAAATTATTT GAATATTGTT TAATGTCTGA ATATGAAAGA GTTCTTGATC  3960
CTAAAGAAAT TTAGTGGCAC AGAAAACAAA GTGAATTTGT TAGCATAATT ATTCCTATTC  4020
TTATTTCTTC ATTTTAAGTC ATTGCAATGG AAAGTAATAT TATAAAACGG TAATTACAAC  4080
ATATTATCAG TCACAGTTTT CTTTCCAATT AAACACTTAA CTTTTGTTAT TCCCTGTATA  4140
TAAATATATA ACACACATTT TCTAGATTCA CAAATTTAAA TAAATTACTC AAAAAATG
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Seq ID No: 101 Protein sequence:
Protein Accession #: NP_031377.1

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1          11         21         31         41         51
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MKGARLFVLL SSLWSGGIGL NNSKHSWTIP EDGNSQKTMP SASVPPNKIQ SLQILPTTRV    60
MSAEIATTPE ARTSEDSLLK STLPPSETSA PAEGVRNQTL TSTEKAEGVV KLQNLTLPTN   120
ASIKFNPGAE SVVLSNSTLK FLQSFARKSN EQATSLNTVG GTGGIGGVGG TGGVGNRAPR   180
ETYLSRGDSS SSQRTDYQKS NFETTRGKNW CAYVHTRLSP TVTLDNQVTY VPGGKGPCGW   240
TGGSCPQRSQ KISNPVYRMQ HKIVTSLDWR CCPGYSGPKC QLRAQEQQSL IHTNQAESHT   300
AVGRGVAEQQ QQQGCGDPEV MQKMTDQVNY QAMKLTLLQK KIDNISLTVN DVRNTYSSLE   360
GKVSEDKSRE FQSLLKGLKS KSINVLIRDI VREQFKIFQN DMQETVAQLF KTVSSLSEDL   420
ESTRQIIQKV NESVVSIAAQ QKFVLVQENR PTLTDIVELR NHIVNVRQEM TLTCEKPIKE   480
LEVKQTHLEG ALEQEHSRSI LYYESLNKTL SKLKEVHEQL LSTEQVSDQK NAPAAESVSN   540
NVTEYMSTLH ENIKKQSLMM LQMFEDLHIQ ESKINNLTVS LEMEKESLRG ECEDMLSKCR   600
NDFKFQLKDT EENLHVLNQT LAEVLFPMDN KMDKMSEQLN DLTYDMEILQ PLLEQGASLR   660
QTMTYEQPKE AIVIRKKIEN LTSAVNSLNF IIKELTKRHN LLRNEVQGRD DALERRINEY   720
ALEMEDGLNK TMTIINNAID FIQDNYALKE TLSTIKDNSE IHHKCTSDME TILTFIPQFH   780
RLNDSIQTLV NDNQRYNFVL QVAKTLAGIP RDEKLNQSNF QKMYQMFNET TSQVRKYQQN   840
MSHLEEKLLL TTKISKNFET RLQDIESKVT QTLIPYYISV KKGSVVTNER DQALQLQVLN   900
SRFKALEAKS IHLSINFFSL NKTLHEVLTM CHNASTSVSE LNATIPKWIK HSLPDIQLLQ   960
KGLTEFVEPI IQIKTQAALS NSTCCIDRSL PGSLANVVKS QKQVKSLPKK INALKKPTVN  1020
LTTVLIGRTQ RNTDNIIYPE EYSSCSRHPC QNGGTCINGR TSFTCACRHP FTGDNCTIKL  1080
VEENALAPDF SKGSYRYAPM VAFFASHTYG MTIPGPILFN NLDVNYGASY TPRTGKFRIP  1140
YLGVYVFKYT IESFSAHISG FLVVDGIDKL AFESENINSE IHCDRVLTGD ALLELNYGQE  1200
VWLRLAKGTI PAKFPPVTTF SGYLLYRT
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Seq ID NO: 102 DNA sequence
Nucleic Acid Accession #: NM_000873.2
Coding sequence: 57-884 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
ATCTCCCTCC AGGCAGCCCT TGGCTGGTCC CTGCGAGCCC GTGGAGACTG CCAGAGATGT    60
CCTCTTTCGG TTACAGGACC CTGACTGTGG CCCTCTTCAC CCTGATCTGC TGTCCAGGAT   120
CGGATGAGAA GGTATTCGAG GTACACGTGA GGCCAAAGAA GCTGGCGGTT GAGCCCAAAG   180
GGTCCCTCGA GGTCAACTGC AGCACCACCT GTAACCAGCC TGAAGTGGGT GGTCTGGAGA   240
CCTCTCTAAA TAAGATTCTG CTGGACGAAC AGGCTCAGTG GAAACATTAC TTGGTCTCAA   300
ACATCTCCCA TGACACGGTC CTCCAATGCC ACTTCACCTG CTCCGGGAAG CAGGAGTCAA   360
TGAATTCCAA CGTCAGCGTG TACCAGCCTC CAAGGCAGGT CATCCTGACA CTGCAACCCA   420
CTTTGGTGGC TGTGGGCAAG TCCTTCACCA TTGAGTGCAG GGTGCCCACC GTGGAGCCCC   480
TGGACAGCCT CACCCTCTTC CTGTTCCGTG GCAATGAGAC TCTGCACTAT GAGACCTTCG   540
GGAAGGCAGC CCCTGCTCCG CAGGAGGCCA CAGCCACATT CAACAGCACG GCTGACAGAG   600
AGGATGGCCA CCGCAACTTC TCCTGCCTGG CTGTGCTGGA CTTGATGTCT CGCGGTGGCA   660
ACATCTTTCA CAAACACTCA GCCCCGAAGA TGTTGGAGAT CTATGAGCCT GTGTCGGACA   720
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GCCAGATGGT CATCATAGTC ACGGTGGTGT CGGTGTTGCT GTCCCTGTTC GTGACATCTG   780
TCCTGCTCTG CTTCATCTTC GGCCAGCACT TGCGCCAGCA GCGGATGGGC ACCTACGGGG   840
TGCGAGCGGC TTGGAGGAGG CTGCCCCAGG CCTTCCGGCC ATAGCAACCA TGAGTGGCAT   900
GGCCACCACC ACGGTGGTCA CTGGAACTCA GTGTGACTCC TCAGGGTTGA GGTCCAGCCC   960
TGGCTGAAGG ACTGTGACAG GCAGCAGAGA CTTGGGACAT TGCCTTTTCT AGCCCGAATA  1020
CAAACACCTG GACTT
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Seq ID No: 103 Protein sequence:
Protein Accession #: NP_000864.1

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1          11         21         31         41         51
|          |          |          |          |          |
MSSFGYRTLT VALFTLICCP GSDEKVFEVH VRPKKLAVEP KGSLEVNCST TCNQPEVGGL    60
ETSLNKILLD EQAQWKHYLV SNISHDTVLQ CHFTCSGKQE SMNSNVSVYQ PPRQVILTLQ   120
PTLVAVGKSF TIECRVPTVE PLDSLTLFLF RGNETLHYET FGKAAPAPQE ATATFNSTAD   180
REDGHRNFSC LAVLDLMSRG GNIFHKHSAP KMLEIYEPVS DSQMVIIVTV VSVLLSLFVT   240
SVLLCFIFGQ HLRQQRMGTY GVRAAWRRLP QAFRP
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Seq ID NO: 104 DNA sequence
Nucleic Acid Accession #: NM_001795.2
Coding sequence: 121-2475 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
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GACGGTCGGC TGACAGGCTC CACAGAGCTC CACTCACGCT CAGGCCCTGG ACGGACAGGC    60
AGTCCAACGG AACAGAAACA TCCCTCAGCC CCACAGGCAC GATCTGTTCC TCCTGGGAAG   120
ATGCAGAGGC TCATGATGCT CCTCGCCACA TCGGGCGCCT GCCTGGGCCT GCTGGCAGTG   180
GCAGCAGTGG CAGCAGCAGG TGCTAACCCT GCCCAACGGG ACACCCACAG CCTGCTGCCC   240
ACCCACCGGC GCCAAAAGAG AGATTGGATT TGGAACCAGA TGCACATTGA TGAAGAGAAA   300
AACACCTCAC TTCCCCATCA TGTAGGCAAG ATCAAGTCAA GCGTGAGTCG CAAGAATGCC   360
AAGTACCTGC TCAAAGGAGA ATATGTGGGC AAGGTCTTCC GGGTCGATGC AGAGACAGGA   420
GACGTGTTCG CCATTGAGAG GCTGGACCGG GAGAATATCT CAGAGTACCA CCTCACTGCT   480
GTCATTGTGG ACAAGGACAC TGGTGAAAAC CTGGAGACTC CTTCCAGCTT CACCATCAAA   540
GTTCATGACG TGAACGACAA CTGGCCTGTG TTCACGCATC GGTTGTTCAA TGCGTCCGTG   600
CCTGAGTCGT CGGCTGTGGG GACCTCAGTC ATCTCTGTGA CAGCAGTGGA TGCAGACGAC   660
CCCACTGTGG GAGACCACGC CTCTGTCATG TACCAAATCC TGAAGGGGAA AGAGTATTTT   720
GCCATCGATA ATTCTGGACG TATTATCACA ATAACGAAAA GCTTGGACCG AGAGAAGCAG   780
GCCAGGTATG AGATCGTGGT GGAAGCGCGA GATGCCCAGG GCCTCCGGGG GGACTCGGGC   840
ACGGCCACCG TGCTGGTCAC TCTGCAAGAC ATCAATGACA ACTTCCCCTT CTTCACCCAG   900
ACCAAGTACA CATTTGTCGT GCCTGAAGAC ACCCGTGTGG GCACCTCTGT GGGCTCTCTG   960
TTTGTTGAGG ACCCAGATGA GCCCCAGAAC CGGATGACCA AGTACAGCAT CTTGCGGGGC  1020
GACTACCAGG ACGCTTTCAC CATTGAGACA AACCCCGCCC ACAACGAGGG CATCATCAAG  1080
CCCATGAAGC CTCTGGATTA TGAATACATC CAGCAATACA GCTTCATCGT CGAGGCCACA  1140
GACCCCACCA TCGACCTCCG ATACATGAGC CCTCCCGCGG GAAACAGAGC CCAGGTCATT  1200
ATCAACATCA CAGATGTGGA CGAGCCCCCC ATTTTCCAGC AGCCTTTCTA CCACTTCCAG  1260
CTGAAGGAAA ACCAGAAGAA GCCTCTGATT GGCACAGTGC TGGCCATGGA CCCTGATGCG  1320
GCTAGGCATA GCATTGGATA CTCCATCCGC AGGACCAGTG ACAAGGGCCA GTTCTTCCGA  1380
GTCACAAAAA AGGGGGACAT TTACAATGAG AAAGAACTGG ACAGAGAAGT CTACCCCTGG  1440
TATAACCTGA CTGTGGAGGC CAAAGAACTG GATTCCACTG GAACCCCCAC AGGAAAAGAA  1500
TCCATTGTGC AAGTCCACAT TGAAGTTTTG GATGAGAATG ACAATGCCCC GGAGTTTGCC  1560
AAGCCCTACC AGCCCAAAGT GTGTGAGAAC GCTGTCCATG GCCAGCTGGT CCTGCAGATC  1620
TCCGCAATAG ACAAGGACAT AACACCACGA AACGTGAAGT TCAAATTCAC CTTGAATACT  1680
GAGAACAACT TTACCCTCAC GGATAATCAC GATAACACGG CCAACATCAC AGTCAAGTAT  1740
GGGCAGTTTG ACCGGGAGCA TACCAAGGTC CACTTCCTAC CCGTGGTCAT CTCAGACAAT  1800
GGGATGCCAA GTCGCACGGG CACCAGCACG CTGACCGTGG CCGTGTGCAA GTGCAACGAG  1860
CAGGGCGAGT TCACCTTCTG CGAGGATATG GCCGCCCAGG TGGGCGTGAG CATCCAGGCA  1920
GTGGTAGCCA TCTTACTCTG CATCCTCACC ATCACAGTGA TCACCCTGCT CATCTTCCTG  1980
CGGCGGCGGC TCCGGAAGCA GGCCCGCGCG CACGGCAAGA GCGTGCCGGA GATCCACGAG  2040
CAGCTGGTCA CCTACGACGA GGAGGGCGGC GGCGAGATGG ACACCACCAG CTACGATGTG  2100
TCGGTGCTCA ACTCGGTGCG CCGCGGCGGG GCCAAGCCCC CGCGGCCCGC GCTGGACGCC  2160
CGGCCTTCCC TCTATGCGCA GGTGCAGAAG CCACCGAGGC ACGCGCCTGG GGCACACGGA  2220
GGGCCCGGGG AGATGGCAGC CATGATCGAG GTGAAGAAGG ACGAGGCGGA CCACGACGGC  2280
GACGGCCCCC CCTACGACAC GCTGCACATC TACGGCTACG AGGGCTCCGA GTCCATAGCC  2340
GAGTCCCTCA GCTCCCTGGG CACCGACTCA TCCGACTCTG ACGTGGATTA CGACTTCCTT  2400
AACGACTGGG GACCCAGGTT TAAGATGCTG GCTGAGCTGT ACGGCTCGGA CCCCCGGGAG  2460
GAGCTGCTGT ATTAGGCGGC CGAGGTCACT CTGGGCCTGG GGACCCAAAC CCCCTGCAGC  2520
CCAGGCCAGT CAGACGCCAG GCACCACAGC CTCCAAAAAT GGCAGTGACT CCCCAGCCCA  2580
GCACCCCTTC CTCGTGGGTC CCAGAGACCT CATCAGCCTT GGGATAGCAA ACTCCAGGTT  2640
CCTGAAATAT CCAGGAATAT ATGTCAGTGA TGACTATTCT CAAATGCTGG CAAATCCAGG  2700
CTGGTGTTCT GTCTGGGCTC AGACATCCAC ATAACCCTGT CACCCACAGA CCGCCGTCTA  2760
ACTCAAAGAC TTCCTCTGGC TCCCCAAGGC TGCAAAGCAA AACAGACTGT GTTTAACTGC  2820
TGCAGGGTCT TTTTCTAGGG TCCCTGAACG CCCTGGTAAG GCTGGTGAGG TCCTGGTGCC  2880
TATCTGCCTG GAGGCAAAGG CCTGGACAGC TTGACTTGTG GGCAGGATTT CTCTGCAGCC  2940
CATTCCCAAG GGAGACTGAC CATCATGCCC TCTCTCGGGA GCCCTAGCCC TGCTCCAACT  3000
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CCATACTCCA CTCCAAGTGC CCCACCACTC CCCAACCCCT CTCCAGGCCT GTCAAGAGGG  3060
AGGAAGGGGC CCCATGGCAG CTCCTGACCT TGGGTCCTGA AGTGACCTCA CTGGCCTGCC  3120
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TTTGAAGCAA CTGTGAATTC ATTCTGGAGG GGCAGTGGAG ATCAGGAGTG ACAGATCACA  3240
GGGTGAGGGC CACCTCCACA CCCACCCCCT CTGGAGAAGG CCTGGAAGAG CTGAGACCTT  3300
GCTTTGAGAC TCCTCAGCAC CCCTCCAGTT TTGCCTGAGA AGGGGCAGAT GTTCCCGGAG  3360
CAGAAGACGT CTCCCCTTCT CTGCCTCACC TGGTCGCCAA TCCATGCTCT CTTTCTTTTC  3420
TCTGTCTACT CCTTATCCCT TGGTTTAGAG GAACCCAAGA TGTGGCCTTT AGCAAAACTG  3480
GACAATGTCC AAACCCACTC ATGACTGCAT GACGGAGCCG AGCCATGTGT CTTTACACCT  3540
CGCTGTTGTC ACATCTCAGG GAACTGACCC TCAGGCACAC CTTGCAGAAG GCAAGGCCCT  3600
GCCCTGCCCA ACCTCTGTGG TCACCCATGC ATCTTCCACT GGAACGTTTC ACTGCAAACA  3660
CACCTTGGAG AAGTGGCATC AGTCAACAGA GAGGGGCAGG GAAGGAGACA CCAAGCTCAC  3720
CCTTCGTCAT GGACCGAGGT TCCCACTCTG GGCAAAGCCC CTCACACTGC AAGGGATTGT  3780
AGATAACACT GACTTGTTTG TTTTAACCAA TAACTAGCTT CTTATAATGA TTTTTTTACT  3840
AATGATACTT ACAAGTTTCT AGCTCTCACA GACATATAGA ATAAGGGTTT TTGCATAATA  3900
AGCAGGTTGT TATTTAGGTT AACAATATTA ATTCAGGTTT TTTAGTTGGA AAAACAATTC  3960
CTGTAACCTT CTATTTTCTA TAATTGTAGT AATTGCTCTA CAGATAATGT CTATATATTG  4020
GCCAAACTGG TGCATGACAA GTACTGTATT TTTTTATACC TAAATAAAGA AAAATCTTTA  4080
GCCTGGGCAA CAAAAAAA
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Seq ID No: 105 Protein sequence:
Protein Accession #: NP_001786.1

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1          11         21         31         41         51
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NTSLPHHVGK IKSSVSRKNA KYLLKGEYVG KVFRVDAETG DVFAIERLDR ENISEYHLTA   120
VIVDKDTGEN LETPSSFTIK VHDVNDNWPV FTHRLFNASV PESSAVGTSV ISVTAVDADD   180
PTVGDHASVM YQILKGKEYF AIDNSGRIIT ITKSLDREKQ ARYEIVVEAR DAQGLRGDSG   240
TATVLVTLQD INDNFPFFTQ TKYTFVVPED TRVGTSVGSL FVEDPDEPQN RMTKYSILRG   300
DYQDAFTIET NPAHNEGIIK PMKPLDYEYI QQYSFIVEAT DPTIDLRYMS PPAGNRAQVI   360
INITDVDEPP IFQQPFYHFQ LKENQKKPLI GTVLAMDPDA ARHSIGYSIR RTSDKGQFFR   420
VTKKGDIYNE KELDREVYPW YNLTVEAKEL DSTGTPTGKE SIVQVHIEVL DENDNAPEFA   480
KPYQPKVCEN AVHGQLVLQI SAIDKDITPR NVKFKFTLNT ENNFTLTDNH DNTANITVKY   540
GQFDREHTKV HFLPVVISDN GMPSRTGTST LTVAVCKCNE QGEFTFCEDM AAQVGVSIQA   600
VVAILLCILT ITVITLLIFL RRRLRKQARA HGKSVPEIHE QLVTYDEEGG GEMDTTSYDV   660
SVLNSVRRGG AKPPRPALDA RPSLYAQVQK PPRHAPGAHG GPGEMAAMIE VKKDEADHDG   720
DGPPYDTLHI YGYEGSESIA ESLSSLGTDS SDSDVDYDFL NDWGPRFKML AELYGSDPRE   780
ELLY
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Seq ID NO: 106 DNA sequence
Nucleic Acid Accession #: none found
Coding sequence: 1-474 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
ACAGTACTCT GTGCAAAAAA CCTGGTGAAA AAGGATTTTT TCCGACTTCC TGATCCATTT    60
GCTAAGGTGG TGGTTGATGG ATCTGGGCAA TGCCATTCTA CAGATACTGT GAAGAATACG   120
CTTGATCCAA AGTGGAATCA GCATTATGAC CTGTATATTG GAAAGTCTGA TTCAGTTACG   180
ATCAGTGTAT GGAATCACAA GAAGATCCAT AAGAAACAAG GTGCTGGATT TCTCGGTTGT   240
GTTCGTCTTC TTTCCAATGC CATCAACCGC CTCAAAGACA CTGGTTATCA GAGGTTGGAT   300
TTATGCAAAC TCGGGCCAAA TGACAATGAT ACAGTTAGAG GACAGATAGT AGTAAGTCTT   360
CAGTCCAGAG ACCGAATAGG CACAGGAGGA CAAGTTGTGG ACTGCAGTCG TTTATTTGAT   420
AACGATTTAC CAGACGGAGC TCATTATTTG TGGACTTGGA AAGATAGATG TTAATGACTG   480
GAAGGTAAAC ACCCGGTTAA AACACTGTAC ACCAGACAGC AACATTGTCA AATGGTTCTG   540
GAAAGCTGTG GAGTTTTTTG ATGAAGAGCG ACGAGCAAGA TTGCTTCAGT TTGTGACAGG   600
ATCCTCTCGA GTGCCTCTGC AGGGCTTCAA AGCATTGCAA GGTGCTGCAG GCCCGAGACT   660
CTTTACCATA CACCAGATTG ATGCCTGCAC TAACAACCTG CCGAAAGCCC ACACTTGCTT   720
CAATCGAATA GACATTCCAC CCTATGAAAG CTATGAAAAG CTATATGAAA AGCTGCTAAC   780
AGCCATTGAA GAAACATGTG GATTTGCTGT GGAATGACAA GCTTCAAGGA TTTACCCAGG   840
AC
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Seq ID No: 107 Protein sequence:
Protein Accession #: none found

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1          11         21         31         41         51
|          |          |          |          |          |
TVLCAKNLVK KDFFRLPDPF AKVVVDGSGQ CHSTDTVKNT LDPKWNQHYD LYIGKSDSVT    60
ISVWNHKKIH KKQGAGFLGC VRLLSNAINR LKDTGYQRLD LCKLGPNDND TVRGQIVVSL   120
QSRDRIGTGG QVVDCSRLFD NDLPDGAHYL WTWKDRC
```

Seq ID NO: 108 DNA sequence
Nucleic Acid Accession #: NM_002318.1
Coding sequence: 248-2572 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
ACTCCAGCGC GCGGCTACCT ACGCTTGGTG CTTGCTTTCT CCAGCCATCG GAGACCAGAG    60
CCGCCCCCTC TGCTCGAGAA AGGGGCTCAG CGGCGGCGGA AGCGGAGGGG GACCACCGTG   120
GAGAGCGCGG TCCCAGCCCG GCCACTGCGG ATCCCTGAAA CCAAAAAGCT CCTGCTGCTT   180
CTGTACCCCG CCTGTCCCTC CCAGCTGCGC AGGGCCCCTT CGTGGGATCA TCAGCCCGAA   240
GACAGGGATG GAGAGGCCTC TGTGCTCCCA CCTCTGCAGC TGCCTGGCTA TGCTGGCCCT   300
CCTGTCCCCC CTGAGCCTGG CACAGTATGA CAGCTGGCCC CATTACCCCG AGTACTTCCA   360
GCAACCGGCT CCTGAGTATC ACCAGCCCCA GGCCCCCGCC AACGTGGCCA AGATTCAGCT   420
GCGCCTGGCT GGGCAGAAGA GGAAGCACAG CGAGGGCCGG GTGGAGGTGT ACTATGATGG   480
CCAGTGGGGC ACCGTGTGCG ATGACGACTT CTCCATCCAC GCTGCCCACG TCGTCTGCCG   540
GGAGCTGGGC TATGTGGAGG CCAAGTCCTG GACTGCCAGC TCCTCCTACG GCAAGGGAGA   600
AGGGCCCATC TGGTTAGACA ATCTCCACTG TACTGGCAAC GAGGCGACCC TTGCAGCATG   660
CACCTCCAAT GGCTGGGGCG TCACTGACTG CAAGCACACG GAGGATGTCG GTGTGGTGTG   720
CAGCGACAAA AGGATTCCTG GGTTCAAATT TGACAATTCG TTGATCAACC AGATAGAGAA   780
CCTGAATATC CAGGTGGAGG ACATTCGGAT TCGAGCCATC CTCTCAACCT ACCGCAAGCG   840
CACCCCAGTG ATGGAGGGCT ACGTGGAGGT GAAGGAGGGC AAGACCTGGA AGCAGATCTG   900
TGACAAGCAC TGGACGGCCA AGAATTCCCG CGTGGTCTGC GGCATGTTTG GCTTCCCTGG   960
GGAGAGGACA TACAATACCA AAGTGTACAA AATGTTTGCC TCACGGAGGA AGCAGCGCTA  1020
CTGGCCATTC TCCATGGACT GCACCGGCAC AGAGGCCCAC ATCTCCAGCT GCAAGCTGGG  1080
CCCCCAGGTG TCACTGGACC CCATGAAGAA TGTCACCTGC GAGAATGGGC TGCCGGCCGT  1140
GGTGAGTTGT GTGCCTGGGC AGGTCTTCAG CCCTGACGGA CCCTCGAGAT TCCGGAAAGC  1200
ATACAAGCCA GAGCAACCCC TGGTGCGACT GAGAGGCGGT GCCTACATCG GGGAGGGCCG  1260
CGTGGAGGTG CTCAAAAATG GAGAATGGGG GACCGTCTGC GACGACAAGT GGGACCTGGT  1320
GTCGGCCAGT GTGGTCTGCA GAGAGCTGGG CTTTGGGAGT GCCAAAGAGG CAGTCACTGG  1380
CTCCCGACTG GGGCAAGGGA TCGGACCCAT CCACCTCAAC GAGATCCAGT GCACAGGCAA  1440
TGAGAAGTCC ATTATAGACT GCAAGTTCAA TGCCGAGTCT CAGGGCTGCA ACCACGAGGA  1500
GGATGCTGGT GTGAGATGCA ACACCCCTGC CATGGGCTTG CAGAAGAAGC TGCGCCTGAA  1560
CGGCGGCCGC AATCCCTACG AGGGCCGAGT GGAGGTGCTG GTGGAGAGAA ACGGGTCCCT  1620
TGTGTGGGGG ATGGTGTGTG GCCAAAACTG GGGCATCGTG GAGGCCATGG TGGTCTGCCG  1680
CCAGCTGGGC CTGGGATTCG CCAGCAACGC CTTCCAGGAG ACCTGGTATT GGCACGGAGA  1740
TGTCAACAGC AACAAAGTGG TCATGAGTGG AGTGAAGTGC TCGGGAACGG AGCTGTCCCT  1800
GGCGCACTGC CGCCACGACG GGGAGGACGT GGCCTGCCCC CAGGGCGGAG TGCAGTACGG  1860
GGCCGGAGTT GCCTGCTCAG AAACCGCCCC TGACCTGGTC CTCAATGCGG AGATGGTGCA  1920
GCAGACCACC TACCTGGAGG ACCGGCCCAT GTTCATGCTG CAGTGTGCCA TGGAGGAGAA  1980
CTGCCTCTCG GCCTCAGCCG CGCAGACCGA CCCCACCACG GGCTACCGCC GGCTCCTGCG  2040
CTTCTCCTCC CAGATCCACA ACAATGGCCA GTCCGACTTC CGGCCCAAGA ACGGCCGCCA  2100
CGCGTGGATC TGGCACGACT GTCACAGGCA CTACCACAGC ATGGAGGTGT TCACCCACTA  2160
TGACCTGCTG AACCTCAATG GCACCAAGGT GGCAGAGGGC CACAAGGCCA GCTTCTGCTT  2220
GGAGGACACA GAATGTGAAG GAGACATCCA GAAGAATTAC GAGTGTGCCA ACTTCGGCGA  2280
TCAGGGCATC ACCATGGGCT GCTGGGACAT GTACCGCCAT GACATCGACT GCCAGTGGGT  2340
TGACATCACT GACGTGCCCC CTGGAGACTA CCTGTTCCAG GTTGTTATTA ACCCCAACTT  2400
CGAGGTTGCA GAATCCGATT ACTCCAACAA CATCATGAAA TGCAGGAGCC GCTATGACGG  2460
CCACCGCATC TGGATGTACA ACTGCCACAT AGGTGGTTCC TTCAGCGAAG AGACGGAAAA  2520
AAAGTTTGAG CACTTCAGCG GGCTCTTAAA CAACCAGCTG TCCCCGCAGT AAAGAAGCCT  2580
GCGTGGTCAA CTCCTGTCTT CAGGCCACAC CACATCTTCC ATGGGACTTC CCCCCAACAA  2640
CTGAGTCTGA ACGAATGCCA CGTGCCCTCA CCCAGCCCGG CCCCCACCCT GTCCAGACCC  2700
CTACAGCTGT GTCTAAGCTC AGGAGGAAAG GGACCCTCCC ATCATTCATG GGGGGCTGCT  2760
ACCTGACCCT TGGGGCCTGA GAAGGCCTTG GGGGGGTGGG GTTTGTCCAC AGAGCTGCTG  2820
GAGCAGCACC AAGAGCCAGT CTTGACCGGG ATGAGGCCCA CAGACAGGTT GTCATCAGCT  2880
TGTCCCATTC AAGCCACCGA GCTCACCACA GACACAGTGG AGCCGCGCTC TTCTCCAGTG  2940
ACACGTGGAC AAATGCGGGC TCATCAGCCC CCCCAGAGAG GGTCAGGCCG AACCCCATTT  3000
CTCCTCCTCT TAGGTCATTT TCAGCAAACT TGAATATCTA GACCTCTCTT CCAATGAAAC  3060
CCTCCAGTCT ATTATAGTCA CATAGATAAT GGTGCCACGT GTTTTCTGAT TTGGTGAGCT  3120
CAGACTTGGT GCTTCCCTCT CCACAACCCC CACCCCTTGT TTTTCAAGAT ACTATTATTA  3180
TATTTTCACA GACTTTTGAA GCACAAATTT ATTGGCATTT AATATTGGAC ATCTGGGCCC  3240
TTGGAAGTAC AAATCTAAGG AAAAACCAAC CCACTGTGTA AGTGACTCAT CTTCCTGTTG  3300
TTCCAATTCT GTGGGTTTTT GATTCAACGG TGCTATAACC AGGGTCCTGG GTGACAGGGC  3360
GCTCACTGAG CACCATGTGT CATCACAGAC ACTTACACAT ACTTGAAACT TGGAATAAAA  3420
GAAAGATTTA TG
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Seq ID No: 109 *Protein sequence;*
Protein Accession #: NP_002309.1

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1          11         21         31         41         51
|          |          |          |          |          |
MERPLCSHLC SCLAMLALLS PLSLAQYDSW PHYPEYFQQP APEYHQPQAP ANVAKIQLRL    60
AGQKRKHSEG RVEVYYDGQW GTVCDDDFSI HAAHVVCREL GYVEAKSWTA SSSYGKGEGP   120
IWLDNLHCTG NEATLAACTS NGWGVTDCKH TEDVGVVCSD KRIPGFKFDN SLINQIENLN   180
IQVEDIRIRA ILSTYRKRTP VMEGYVEVKE GKTWKQICDK HWTAKNSRVV CGMFGFPGER   240
TYNTKVYKMF ASRRKQRYWP FSMDCTGTEA HISSCKLGPQ VSLDPMKNVT CENGLPAVVS   300
CVPGQVFSPD GPSRFRKAYK PEQPLVRLRG GAYIGEGRVE VLKNGEWGTV CDDKWDLVSA   360
SVVCRELGFG SAKEAVTGSR LGQGIGPIHL NEIQCTGNEK SIIDCKFNAE SQGCNHEEDA   420
```

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GVRCNTPAMG LQKKLRENGG RNPYEGRVEV LVERNGSLVW GMVCGQNWGI VEAMVVCRQL   480
GLGFASNAFQ ETWYWHGDVN SNKVVMSGVK CSGTELSLAH CRHDGEDVAC PQGGVQYGAG   540
VACSETAPDL VLNAEMVQQT TYLEDRPMFM LQCAMEENCL SASAAQTDPT TGYRRLLRFS   600
SQIHNNGQSD FRPKNGRHAW IWHDCHRHYH SMEVFTHYDL LNLNGTKVAE GHKASFCLED   660
TECEGDIQKN YECANFGDQG ITMGCWDMYR HDIDCQWVDI TDVPPGDYLF QVVINPNFEV   720
AESDYSNNIM KCRSRYDGHR IWMYNCHIGG SFSEETEKKF EHFSGLLNNQ LSPQ
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Seq ID NO: 110 DNA sequence
Nucleic Acid Accession #: none found, CAT_73007_3
Coding sequence: 1-495 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
CGGACGCGTG GGTCGACCCA CGCGTCCGCC CACGCGTCCG TATGGACAGA GCCTCCACTG    60
GCTGCTGCCT GCCCGCCACA TACCCAGCTG ACATGGGCAC CGCAGGAGCC ATGCAGCTGT   120
CTGGGTGATC CTGGGCTTCC TCCTGTTCCG AGGCCACAAC TCCCAGCCCA CAATGACCCA   180
ACCTCTAGCT CTCAGGGAGG CCTTGGCGGT CTAAGTCTGA CCACAGAGCC AGTTTCTTCC   240
ACCCAGGATA CATCCCTTCC TCAGAGGCTA ACAGGCCAAG CCATCTGTCC AGCACTGGTA   300
CCCAGGCGCA GGTGTCCCCA GCAGTGGAAG AGACGGAGGC ACAAGCAGAG ACACATTTCA   360
ACTGTTCCCC CCAATTCAAC CACCATGAGC CTGAGCATGA GGGAAGATGC GACCATCCTG   420
CCAGCCCCAC GTCAGAGACT GTGCTCACTG TGGCTGCATT TGGGATGGAG TCGGGTGGAG   480
GCCCACTCTG GCTAGGGGGC GGCAGGCTGA GAGCTCACCT GTTCAGCAGA GAAGTGGAAC   540
CACTTTGCTC CTGGAGCCTG TCTACCACAG TGTTATCAGC TTCATTGTCA TCCTGGTGGT   600
GTGGTGATCA TCCTAGTTGG TGTGGTCAGC CTGAGGGTTC AGTGTCGGAA GAGCAAGGAG   660
TCTGAAGATC CCAGAACCTG GGAGTACAGG GCGTGTCTGA CAAGCTGGTC ACAGACCATG   720
GCGAGAACGA CAGCATCGCC CATTATCACA TGGAAGACAT CACACGACTT AGGGCAACAC   780
GCACTCAGCA GCGAGCATCA AAGGAGCCTA CGCATGGCCC AGACTGAGAG CAAGCACAAA   840
GGGC
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Seq ID No: 111 Protein sequence:
Protein Accession #: none found, CAT_73007_3

```
1          11         21         31         41         51
|          |          |          |          |          |
RTRGSTHASA HASVWTEPPL AAACPPHTQL TWAPQEPCSC LGDPGLPPVP RPQLPAHNDP    60
TSSSQGGLGG LSLTTEPVSS TQDTSLPQRL TGQAICPALV PRRRCPQQWK RRRHKQRHIS   120
TVPPNSTTMS LSMREDATIL PAPRQRLCSL WLHLGWSRVE AHSG
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Seq ID NO: 112 DNA sequence
Nucleic Acid Accession #: NM_005424.1
Coding sequence: 37-3453 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
CGCTCGTCCT GGCTGGCCTG GGTCGGCCTC TGGAGTATGG TCTGGCGGGT GCCCCCTTTC    60
TTGCTCCCCA TCCTCTTCTT GGCTTCTCAT GTGGGCGCGG CGGTGGACCT GACGCTGCTG   120
GCCAACCTGC GGCTCACGGA CCCCCAGCGC TTCTTCCTGA CTTGCGTGTC TGGGGAGGCC   180
GGGGCGGGGA GGGGCTCGGA CGCCTGGGGC CCGCCCCTGC TGCTGGAGAA GGACGACCGT   240
ATCGTGCGCA CCCCGCCCGG GCCACCCCTG CGCCTGGCGC GCAACGGTTC GCACCAGGTC   300
ACGCTTCGCG GCTTCTCCAA GCCCTCGGAC CTCGTGGGCG TCTTCTCCTG CGTGGGCGGT   360
GCTGGGGCGC GGCGCACGCG CGTCATCTAC GTGCACAACA GCCCTGGAGC CCACCTGCTT   420
CCAGACAAGG TCACACACAC TGTGAACAAA GGTGACACCG CTGTACTTTC TGCACGTGTG   480
CACAAGGAGA AGCAGACAGA CGTGATCTGG AAGAGCAACG GATCCTACTT CTACACCCTG   540
GACTGGCATG AAGCCCAGGA TGGGCGGTTC CTGCTGCAGC TCCCAAATGT GCAGCCACCA   600
TCGAGCGGCA TCTACAGTGC CACTTACCTG GAAGCCAGCC CCCTGGGCAG CGCCTTCTTT   660
CGGCTCATCG TGCGGGGTTG TGGGGCTGGG CGCTGGGGGC CAGGCTGTAC CAAGGAGTGC   720
CCAGGTTGCC TACATGGAGG TGTCTGCCAC GACCATGACG GCGAATGTGT ATGCCCCCCT   780
GGCTTCACTG GCACCCGCTG TGAACAGGCC TGCAGAGAGG GCCGTTTTGG GCAGAGCTGC   840
CAGGAGCAGT GCCCAGGCAT ATCAGGCTGC CGGGGCCTCA CCTTCTGCCT CCCAGACCCC   900
TATGGCTGCT CTTGTGGATC TGGCTGGAGA GGAAGCCAGT GCCAAGAAGC TTGTGCCCCT   960
GGTCATTTTG GGGCTGATTG CCGACTCCAG TGCCAGTGTC AGAATGGTGG CACTTGTGAC  1020
CGGTTCAGTG GTTGTGTCTG CCCCTCTGGG TGGCATGGAG TGCACTGTGA GAAGTCAGAC  1080
CGGATCCCCC AGATCCTCAA CATGGCCTCA GAACTGGAGT TCAACTTAGA GACGATGCCC  1140
CGGATCAACT GTGCAGCTGC AGGGAACCCC TTCCCCGTGC GGGGCAGCAT AGAGCTACGC  1200
AAGCCAGACG GCACTGTGCT CCTGTCCACC AAGGCCATTG TGGAGCCAGA GAAGACCACA  1260
GCTGAGTTCG AGGTGCCCCG CTTGGTTCTT GCGGACAGTG GGTTCTGGGA GTGCCGTGTG  1320
TCCACATCTG GCGGCCAAGA CAGCCGGCGC TTCAAGGTCA ATGTGAAAGT GCCCCCCGTG  1380
CCCCTGGCTG CACCTCGGCT CCTGACCAAG CAGAGCCGCC AGCTTGTGGT CTCCCCGCTG  1440
GTCTCGTTCT CTGGGGATGG ACCCATCTCC ACTGTCCGCC TGCACTACCG GCCCCAGGAC  1500
AGTACCATGG ACTGGTCGAC CATTGTGGTG GACCCCAGTG AGAACGTGAC GTTAATGAAC  1560
CTGAGGCCAA AGACAGGATA CAGTGTTCGT GTGCAGCTGA GCCGGCCAGG GGAAGGAGGA  1620
GAGGGGGCCT GGGGGCCTCC CACCCTCATG ACCACAGACT GTCCTGAGCC TTTGTTGCAG  1680
CCGTGGTTGG AGGGCTGGCA TGTGGAAGGC ACTGACCGGC TGCGAGTGAG CTGGTCCTTG  1740
CCCTTGGTGC CCGGGCCACT GGTGGGCGAC GGTTTCCTGC TGCGCCTGTG GGACGGGACA  1800
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CGGGGGCAGG AGCGGCGGGA GAACGTCTCA TCCCCCCAGG CCCGCACTGC CCTCCTGACG  1860
GGACTCACGC CTGGCACCCA CTACCAGCTG GATGTGCAGC TCTACCACTG CACCCTCCTG  1920
GGCCCGGCCT CGCCCCCTGC ACACGTGCTT CTGCCCCCCA GTGGGCCTCC AGCCCCCCGA  1980
CACCTCCACG CCCAGGCCCT CTCAGACTCC GAGATCCAGC TGACATGGAA GCACCCGGAG  2040
GCTCTGCCTG GGCCAATATC CAAGTACGTT GTGGAGGTGC AGGTGGCTGG GGGTGCAGGA  2100
GACCCACTGT GGATAGACGT GGACAGGCCT GAGGAGACAA GCACCATCAT CCGTGGCCTC  2160
AACGCCAGCA CGCGCTACCT CTTCCGCATG CGGGCCAGCA TTCAGGGGCT CGGGGACTGG  2220
AGCAACACAG TAGAAGAGTC CACCCTGGGC AACGGGCTGC AGGCTGAGGG CCCAGTCCAA  2280
GAGAGCCGGG CAGCTGAAGA GGGCCTGGAT CAGCAGCTGA TCCTGGCGGT GGTGGGCTCC  2340
GTGTCTGCCA CCTGCCTCAC CATCCTGGCC GCCCTTTTAA CCCTGGTGTG CATCCGCAGA  2400
AGCTGCCTGC ATCGGAGACG CACCTTCACC TACCAGTCAG GCTCGGGCGA GGAGACCATC  2460
CTGCAGTTCA GCTCAGGGAC CTTGACACTT ACCCGGCGGC CAAAACTGCA GCCCGAGCCC  2520
CTGAGCTACC CAGTGCTAGA GTGGGAGGAC ATCACCTTTG AGGACCTCAT CGGGGAGGGG  2580
AACTTCGGCC AGGTCATCCG GGCCATGATC AAGAAGGACG GGCTGAAGAT GAACGCAGCC  2640
ATCAAAATGC TGAAAGAGTA TGCCTCTGAA AATGACCATC GTGACTTTGC GGGAGAACTG  2700
GAAGTTCTGT GCAAATTGGG GCATCACCCC AACATCATCA ACCTCCTGGG GGCCTGTAAG  2760
AACCGAGGTT ACTTGTATAT CGCTATTGAA TATGCCCCCT ACGGGAACCT GCTAGATTTT  2820
CTGCGGAAAA GCCGGGTCCT AGAGACTGAC CCAGCTTTTG CTCGAGAGCA TGGGACAGCC  2880
TCTACCCTTA GCTCCCGGCA GCTGCTGCGT TTCGCCAGTG ATGCGGCCAA TGGCATGCAG  2940
TACCTGAGTG AGAAGCAGTT CATCCACAGG GACCTGGCTG CCCGGAATGT GCTGGTCGGA  3000
GAGAACCTAG CCTCCAAGAT TGCAGACTTC GGCCTTTCTC GGGGAGAGGA GGTTTATGTG  3060
AAGAAGACGA TGGGGCGTCT CCCTGTGCGC TGGATGGCCA TTGAGTCCCT GAACTACAGT  3120
GTCTATACCA CCAAGAGTGA TGTCTGGTCC TTTGGAGTCC TTCTTTGGGA GATAGTGAGC  3180
CTTGGAGGTA CACCCTACTG TGGCATGACC TGTGCCGAGC TCTATGAAAA GCTGCCCCAG  3240
GGCTACCGCA TGGAGCAGCC TCGAAACTGT GACGATGAAG TGTACGAGCT GATGCGTCAG  3300
TGCTGGCGGG ACCGTCCCTA TGAGCGACCC CCCTTTGCCC AGATTGCGCT ACAGCTAGGC  3360
CGCATGCTGG AAGCCAGGAA GGCCTATGTG AACATGTCGC TGTTTGAGAA CTTCACTTAC  3420
GCGGGCATTG ATGCCACAGC TGAGGAGGCC TGAGCTGCCA TCCAGCCAGA ACGTGGCTCT  3480
GCTGGCCGGA GCAAACTCTG CTGTCTAACC TGTGACCAGT CTGACCCTTA CAGCCTCTGA  3540
CTTAAGCTGC CTCAAGGAAT TTTTTTAACT TAAGGGAGAA AAAAAGGGAT CTGGGGATGG  3600
GGTGGGCTTA GGGGAACTGG GTTCCCATGC TTTGTAGGTG TCTCATAGCT ATCCTGGGCA  3660
TCCTTCTTTC TAGTTCAGCT GCCCCACAGG TGTGTTTCCC ATCCCACTGC TCCCCCAACA  3720
CAAACCCCCA CTCCAGCTCC TTCGCTTAAG CCAGCACTCA CACCACTAAC ATGCCCTGTT  3780
CAGCTACTCC CACTCCCGGC CTGTCATTCA GAAAAAAATA AATGTTCTAA TAAGCTCCAA  3840
AAAAA
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Seq ID No: 113 Protein sequence:
Protein Accession #: NP_005415.1

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1          11         21         31         41         51
|          |          |          |          |          |
MVWRVPPFLL PILFLASHVG AAVDLTLLAN LRLTDPQRFF LTCVSGEAGA GRGSDAWGPP    60
LLLEKDDRIV RTPPGPPLRL ARNGSHQVTL RGFSKPSDLV GVFSCVGGAG ARRTRVIYVH   120
NSPGAHLLPD KVTHTVNKGD TAVLSARVHK EKQTDVIWKS NGSYFYTLDW HEAQDGRFLL   180
QLPNVQPPSS GIYSATYLEA SPLGSAFFRL IVRGCGAGRW GPGCTKECPG CLHGGVCHDH   240
DGECVCPPGF TGTRCEQACR EGRFGQSCQE QCPGISGCRG LTFCLPDPYG CSCGSGWRGS   300
QCQEACAPGH FGADCRLQCQ CQNGGTCDRF SGCVCPSGWH GVHCEKSDRI PQILNMASEL   360
EFNLETMPRI NCAAAGNPFP VRGSIELRKP DGTVLLSTKA IVEPEKTTAE FEVPRLVLAD   420
SGFWECRVST SGGQDSRRFK VNVKVPPVPL AAPRLLTKQS RQLVVSPLVS FSGDGPISTV   480
RLHYRPQDST MDWSTIVVDP SENVTLMNLR PKTGYSVRVQ LSRPGEGGEG AWGPPTLMTT   540
DCPEPLLQPW LEGWHVEGTD RLRVSWSLPL VPGPLVGDGF LLRLWDGTRG QERRENVSSP   600
QARTALLTGL TPGTHYQLDV QLYHCTLLGP ASPPAHVLLP PSGPPAPRHL HAQALSDSEI   660
QLTWKHPEAL PGPISKYVVE VQVAGGAGDP LWIDVDRPEE TSTIIRGLNA STRYLFRMRA   720
SIQGLGDWSN TVEESTLGNG LQAEGPVQES RAAEEGLDQQ LILAVVGSVS ATCLTILAAL   780
LTLVCIRRSC LHRRRTFTYQ SGSGEETILQ FSSGTLTLTR RPKLQPEPLS YPVLEWEDIT   840
FEDLIGEGNF GQVIRAMIKK DGLKMNAAIK MLKEYASEND HRDFAGELEV LCKLGHHPNI   900
INLLGACKNR GYLYIAIEYA PYGNLLDFLR KSRVLETDPA FAREHGTAST LSSRQLLRFA   960
SDAANGMQYL SEKQFIHRDL AARNVLVGEN LASKIADFGL SRGEEVYVKK TMGRLPVRWM  1020
AIESLNYSVY TTKSDVWSFG VLLWEIVSLG GTPYCGMTCA ELYEKLPQGY RMEQPRNCDD  1080
EVYELMRQCW RDRPYERPPF AQIALQLGRM LEARKAYVNM SLFENFTYAG IDATAEEA
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Seq ID NO: 114 DNA sequence
Nucleic Acid Accession #: NM_002632.1
Coding sequence: 322-771 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
GGGATTCGGG CCGCCCAGCT ACGGGAGGAC CTGGAGTGGC ACTGGGCGCC CGACGGACCA    60
TCCCCGGGAC CCGCCTGCCC CTCGGCGCCC CGCCCCGCCG GGCCGCTCCC CGTCGGGTTC   120
CCCAGCCACA GCCTTACCTA CGGGCTCCTG ACTCCGCAAG GCTTCCAGAA GATGCTCGAA   180
CCACCGGCCG GGGCCTCGGG GCAGCAGTGA GGGAGGCGTC CAGCCCCCCA CTCAGCTCTT   240
CTCCTCCTGT GCCAGGGGCT CCCCGGGGGA TGAGCATGGT GGTTTTCCCT CGGAGCCCCC   300
TGGCTCGGGA CGTCTGAGAA GATGCCGGTC ATGAGGCTGT TCCCTTGCTT CCTGCAGCTC   360
CTGGCCGGGC TGGCGCTGCC TGCTGTGCCC CCCCAGCAGT GGGCCTTGTC TGCTGGGAAC   420
GGCTCGTCAG AGGTGGAAGT GGTACCCTTC CAGGAAGTGT GGGGCCGCAG CTACTGCCGG   480
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GCGCTGGAGA GGCTGGTGGA CGTCGTGTCC GAGTACCCCA GCGAGGTGGA GCACATGTTC   540
AGCCCATCCT GTGTCTCCCT GCTGCGCTGC ACCGGCTGCT GCGGCGATGA GAATCTGCAC   600
TGTGTGCCGG TGGAGACGGC CAATGTCACC ATGCAGCTCC TAAAGATCCG TTCTGGGGAC   660
CGGCCCTCCT ACGTGGAGCT GACGTTCTCT CAGCACGTTC GCTGCGAATG CCGGCCTCTG   720
CGGGAGAAGA TGAAGCCGGA AAGGTGCGGC GATGCTGTTC CCCGGAGGTA ACCCACCCCT   780
TGGAGGAGAG AGACCCCGCA CCCGGCTCGT GTATTTATTA CCGTCACACT CTTCAGTGAC   840
TCCTGCTGGT ACCTGCCCTC TATTTATTAG CCAACTGTTT CCCTGCTGAA TGCCTCGCTC   900
CCTTCAAGAC GAGGGGCAGG GAAGGACAGG ACCCTCAGGA ATTCAGTGCC TTCAACAACG   960
TGAGAGAAAG AGAGAAGCCA GCCACAGACC CCTGGGAGCT TCCGCTTTGA AAGAAGCAAG  1020
ACACGTGGCC TCGTGAGGGG CAAGCTAGGC CCCAGAGGCC CTGGAGGTCT CCAGGGGCCT  1080
GCAGAAGGAA AGAAGGGGGC CCTGCTACCT GTTCTTGGGC CTCAGGCTCT GCACAGACAA  1140
GCAGCCCTTG CTTTCGGAGC TCCTGTCCAA AGTAGGGATG CGGATTCTGC TGGGGCCGCC  1200
ACGGCCTGGT GGTGGGAAGG CCGGCAGCGG GCGGAGGGGA TTCAGCCACT TCCCCCTCTT  1260
CTTCTGAAGA TCAGAACATT CAGCTCTGGA GAACAGTGGT TGCCTGGGGG CTTTTGCCAC  1320
TCCTTGTCCC CCGTGATCTC CCCTCACACT TTGCCATTTG CTTGTACTGG GACATTGTTC  1380
TTTCCGGCCG AGGTGCCACC ACCCTGCCCC CACTAAGAGA CACATACAGA GTGGGCCCCG  1440
GGCTGGAGAA AGAGCTGCCT GGATGAGAAA CAGCTCAGCC AGTGGGGATG AGGTCACCAG  1500
GGGAGGAGCC TGTGCGTCCC AGCTGAAGGC AGTGGCAGGG GAGCAGGTTC CCCAAGGGCC  1560
CTGGCACCCC CACAAGCTGT CCCTGCAGGG CCATCTGACT GCCAAGCCAG ATTCTCTTGA  1620
ATAAAGTATT CTAGTGTGGA AACGC ,
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Seq ID No: 115 Protein sequence:
Protein Accession #: NP_002623.1

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1          11         21         31         41         51
|          |          |          |          |          |
MPVMRLFPCF LQLLAGLALP AVPPQQWALS AGNGSSEVEV VPFQEVWGRS YCRALERLVD    60
VVSEYPSEVE HMFSPSCVSL LRCTGCCGDE NLHCVPVETA NVTMQLLKIR SGDRPSYVEL   120
TFSQHVRCEC RPLREKMKPE RCGDAVPRR
```

Seq ID NO: 116 DNA sequence
Nucleic Acid Accession #: NM_007361.1
Coding sequence: 1-4131 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
ATGGAGGGGG ACCGGGTGGC CGGGCGGCCG GTGCTGTCGT CGTTACCAGT GCTACTGCTG    60
CTGCAGTTGC TAATGTTGCG GGCCGCGGCG CTGCACCCAG ACGAGCTCTT CCCACACGGG   120
GAGTCGTGGT GGGACCAGCT CCTGCAGGAA GGCGACGACG TAAAGCTCAG CCGTGGTGAA   180
GCTGGCGAAT CCCCTGCACT TCTTACGAAG CCCGATTCAG CAACCTCTAC GTGGGCACCA   240
ACGGCATCAT CTCCACTCAG GACTTCCCCA GGGAAACGCA GTATGTGGAC TATGATTTCC   300
CCACCGACTT CCCGGCCATC GCCCCTTTTC TGGCGGACAT CGACACGAGC CACGGCAGAG   360
GCCGAGTCCT GTACCGAGAG GACACCTCCC CCGCAGTGCT GGGCCTGGCC GCCCGCTATG   420
TGCGCGCTGG CTTCCCGCGC TCTGCGCGCT TTTTACCCCC ACCCACGCCT TCCTGGCCAC   480
CTGGGAGCAG GTAGGCGCTT ACGAGGAGGT CAAACGCGGG CGCTGCCCTC GGGAGAGCTG   540
AACACTTTCC AGGCAGTTTT GGCATCTGAT GGGTCTGATA GCTACGCCCT CTTTCTTTAT   600
CCTGCCAACG GCCTGCAGTT CCTTGGAACC CGCCCCAAAG AGTCTTACAA TGTCCAGCTT   660
CAGCTTCCAG CTCGGGTGGG CTTCTGCCGA GGGGAGGCTG ATGATCTGAA GTCAGAAGGA   720
CCATATTTCA GCTTGACTAG CACTGAACAG TCTGTGAAAA ATCTCTATCA ACTAAGCAAC   780
CTGGGGATCC CTGGAGTGTG GGCTTTCCAT ATCGGCAGCA CTTCCCCGTT GGACAATGTC   840
AGGCCAGCTG CAGTTGGAGA CCTTTCCGCT GCCCACTCTT CTGTTCCCCT GGGACGTTCC   900
TTCAGCCATG CTACAGCCCT GGAAAGTGAC TATAATGAGG ACAATTTGGA TTACTACGAT   960
GTGAATGAGG AGGAAGCTGA ATACCTTCCG GGTGAACCAG AGGAGGCATT GAATGGCCAC  1020
AGCAGCATTG ATGTTTCCTT CCAATCCAAA GTGGATACAA AGCCTTTAGA GGAATCTTCC  1080
ACCTTGGATC CTCACACCAA AGAAGGAACA TCTCTGGGAG AGGTAGGGGG CCCAGATTTA  1140
AAAGGCCAAG TTGAGCCCTG GGATGAGAGA GAGACCAGAA GCCCAGCTCC ACCAGAGGTA  1200
GACAGAGATT CACTGGCTCC TTCCTGGGAA ACCCCACCAC CGTACCCCGA AAACGGAAGC  1260
ATCCAGCCCT ACCCAGATGG AGGGCCAGTG CCTTCGGAAA TGGATGTTCC CCCAGCTCAT  1320
CCTGAAGAAG AAATTGTTCT TCGAAGTTAC CCTGCTTCAG GTCACACTAC ACCCTTAAGT  1380
CGAGGGACGT ATGAGGTGGG ACTGGAAGAC AACATAGGTT CCAACACCGA GGTCTTCACG  1440
TATAATGCTG CCAACAAGGA AACCTGTGAA CACAACCACA GACAATGCTC CCGGCATGCC  1500
TTCTGCACGG ACTATGCCAC TGGCTTCTGC TGCCACTGCC AATCCAAGTT TTATGGAAAT  1560
GGGAAGCACT GTCTGCCTGA GGGGGCACCT CACCGAGTGA ATGGGAAAGT GAGTGGCCAC  1620
CTCCACGTGG GCCATACACC CGTGCACTTC ACTGATGTGG ACCTGCATGC GTATATCGTG  1680
GGCAATGATG GCAGAGCCTA CACGGCCATC AGCCACATCC CACAGCCAGC AGCCCAGGCC  1740
CTCCTCCCCC TCACACCAAT TGGAGGCCTG TTTGGCTGGC TCTTTGCTTT AGAAAAACCT  1800
GGCTCTGAGA ACGGCTTCAG CCTCGCAGGT GCTGCCTTTA CCCATGACAT GGAAGTTACA  1860
TTCTACCCGG GAGAGGAGAC GGTTCGTATC ACTCAAACTG CTGAGGGACT TGACCCAGAG  1920
AACTACCTGA GCATTAAGAC CAACATTCAA GGCCAGGTGC CTTACGTCCC AGCAAATTTC  1980
ACAGCCCACA TCTCTCCCTA CAAGGAGCTG TACCACTACT CCGACTCCAC TGTGACCTCT  2040
ACAAGTTCCA GAGACTACTC TCTGACTTTT GGTGCAATCA ACCAAACATG GTCCTACCGC  2100
ATCCACCAGA ACATCACTTA CCAGGTGTGC AGGCACGCCC CCAGACACCC GTCCTTCCCC  2160
ACCACCCAGC AGCTGAACGT GGACCGGGTC TTTGCCTTGT ATAATGATGA AGAAAGAGTG  2220
CTTAGATTTG CTGTGACCAA TCAAATTGGC CCGGTCAAAG AAGATTCAGA CCCCACTCCG  2280
GTGAATCCTT GCTATGATGG GAGCCACATG TGTGACACAA CAGCACGGTG CCATCCAGGG  2340
ACAGGTGTAG ATTACACCTG TGAGTGCGCA TCTGGGTACC AGGGAGATGG ACGGAACTGT  2400
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GTGGATGAAA ATGAATGTGC AACTGGCTTT CATCGCTGTG GCCCCAACTC TGTATGTATC  2460
AACTTGCCTG GAAGCTACAG GTGTGAGTGC CGGAGTGGTT ATGAGTTTGC AGATGACCGG  2520
CATACTTGCA TCTTGATCAC CCCACCTGCC AACCCCTGTG AGGATGGCAG TCATACCTGT  2580
GCTCCTGCTG GGCAGGCCCG GTGTGTTCAC CATGGAGGCA GCACGTTCAG CTGTGCCTGC  2640
CTGCCTGGTT ATGCCGGCGA TGGGCACCAG TGCACTGATG TAGATGAATG CTCAGAAAAC  2700
AGATGTCACC CTGCAGCTAC CTGCTACAAT ACTCCTGGTT CCTTCTCCTG CCGTTGTCAA  2760
CCCGGATATT ATGGGGATGG ATTTCAGTGC ATACCTGACT CCACCTCAAG CCTGACACCC  2820
TGTGAACAAC AGCAGCGCCA TGCCCAGGCC CAGTATGCCT ACCCTGGGGC CCGGTTCCAC  2880
ATCCCCCAAT GCGACGAGCA GGGCAACTTC CTGCCCCTAC AGTGTCATGG CAGCACTGGT  2940
TTCTGCTGGT GCGTGGACCC TGATGGTCAT GAAGTTCCTG GTACCCAGAC TCCACCTGGC  3000
TCCACCCCGC CTCACTGTGG ACCATCACCA GAGCCCACCC AGAGGCCCCC GACCATCTGT  3060
GAGCGCTGGA GGGAAAACCT GCTGGAGCAC TACGGTGGCA CCCCCCGAGA TGACCAGTAC  3120
GTGCCCCAGT GCGATGACCT GGGCCACTTC ATCCCCCTGC AGTGCCACGG AAAGAGCGAC  3180
TTCTGCTGGT GTGTGGACAA AGATGGCAGA GAGGTGCAGG GCACCCGCTC CCAGCCAGGC  3240
ACCACCCCTG CGTGTATACC CACCGTCGCT CCACCCATGG TCCGGCCCAC GCCCCGGCCA  3300
GATGTGACCC CTCCATCTGT GGGCACCTTC CTGCTCTATA CTCAGGGCCA GCAGATTGGC  3360
TACTTACCCC TCAATGGCAC CAGGCTTCAG AAGGATGCAG CTAAGACCCT GCTGTCTCTG  3420
CATGGCTCCA TAATCGTGGG AATTGATTAC GACTGCCGGG AGAGGATGGT GTACTGGACA  3480
GATGTTGCTG GACGGACAAT CAGCCGTGCC GGTCTGGAAC TGGGAGCAGA GCCTGAGACG  3540
ATCGTGAATT CAGGTCTGAT AAGCCCTGAA GGACTTGCCA TAGACCACAT CCGCAGAACA  3600
ATGTACTGGA CGGACAGTGT CCTGGATAAG ATAGAGAGCG CCCTGCTGGA TGGCTCTGAG  3660
CGCAAGGTCC TCTTCTACAC AGATCTGGTG AATCCCCGTG CCATCGCTGT GGATCCAATC  3720
CGAGGCAACT TGTACTGGAC AGACTGGAAT AGAGAAGCTC CTAAAATTGA AACGTCATCT  3780
TTAGATGGAG AAAACAGAAG AATTCTGATC AATACAGACA TTGGATTGCC CAATGGCTTA  3840
ACCTTTGACC CTTTCTCTAA ACTGCTCTGC TGGGCAGATG CAGGAACCAA AAAACTGGAG  3900
TGTACACTAC CTGATGGAAC TGGACGGCGT GTCATTCAAA ACAACCTCAA GTACCCCTTC  3960
AGCATCGTAA GCTATGCAGA TCACTTCTAC CACACAGACT GGAGGAGGGA TGGTGTTGTA  4020
TCAGTAAATA AACATAGTGG CCAGTTTACT GATGAGTATC TCCCAGAACA ACGATCTCAC  4080
CTCTACGGGA TAACTGCAGT CTACCCCTAC TGCCCAACAG GAAGAAAGTA AGTACAGTAA  4140
TGTAAAGGAA GACTTGGAGT TTACAATCAG AACCTGGACC CTAAAGAACA GTGACTGCAA  4200
AGGCAAAGAA AGTAAAAAAG GAATTGGCCA TTAGACGTTC CTGAGCATCC AAGATGAACA  4260
TTTTGTAGTG CAAAAAGACT TTTGTGAAAA GCTGATACCT CAATCTTTAC TACTGTATTT  4320
TTAAAAATGA AGGTTGTTAT TGCAAGTTTA AAAAGGTAAC AGAATTTTAA CTGTTGCTTA  4380
TTAAAGCAAC TTCTTGTAAA CATTTATCAT TAATATTTAA AAGATCAAAT TCATTCAACT  4440
AAGAATTAGA GTTTAAGACT CTAAACCTGA TTTTTGCCAT GGATTCCTTC TGGCCAAGAA  4500
ATTAAAGCAC ATGTGATCAA TATAACAATA TAATCCTAAA CCTTGACAGT TGGAGAAGCC  4560
AATGCAGAAC TGATGGGAAA GGACCAATTA TTTATAGTTT CCCAACAAAA GTTCTAAGAT  4620
TTTTTACCTC TGCATCAGTG CATTTCTATT TATATCAAAA GGTGCTAAAA TGATTCAATT  4680
TGCATTTTCT GATCCTGTAG TGCCTCTATA GAAGTACCCA CAGAAAGTAA AGTATCACAT  4740
TTATAAATAC CAAAGATGTA ACAATTTTAA AATTTTCTAG ATTACTCCAA TAAAGTGTTT  4800
TAAGTTTAAA AAAAAAAAAA AAAAAAAAA
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Seq ID No: 117 Protein sequence:
Protein Accession #: NP_031387.1

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1          11         21         31         41         51
|          |          |          |          |          |
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AGESPALLTK PDSATSTWAP TASSPLRTSP GKRSMWTMIS PPTSRPSPLF WRTSTRATAE   120
AESCTERTPP PQCWAWPPAM CALASRALRA FYPHPRLPGH LGAGRRLRGG QTRALPSGEL   180
NTFQAVLASD GSDSYALFLY PANGLQFLGT RPKESYNVQL QLPARVGFCR GEADDLKSEG   240
PYFSLTSTEQ SVKNLYQLSN LGIPGVWAFH IGSTSPLDNV RPAAVGDLSA AHSSVPLGRS   300
FSHATALESD YNEDNLDYYD VNEEEAEYLP GEPEEALNGH SSIDVSFQSK VDTKPLEESS   360
TLDPHTKEGT SLGEVGGPDL KGQVEPWDER ETRSPAPPEV DRDSLAPSWE TPPPYPENGS   420
IQPYPDGGPV PSEMDVPPAH PEEEIVLRSY PASGHTTPLS RGTYEVGLED NIGSNTEVFT   480
YNAANKETCE HNHRQCSRHA FCTDYATGFC CHCQSKFYGN GKHCLPEGAP HRVNGKVSGH   540
LHVGHTPVHF TDVDLHAYIV GNDGRAYTAI SHIPQPAAQA LLPLTPIGGL FGWLFALEKP   600
GSENGFSLAG AAFTHDMEVT FYPGEETVRI TQTAEGLDPE NYLSIKTNIQ GQVPYVPANF   660
TAHISPYKEL YHYSDSTVTS TSSRDYSLTF GAINQTWSYR IHQNITYQVC RHAPRHPSFP   720
TTQQLNVDRV FALYNDEERV LRFAVTNQIG PVKEDSDPTP VNPCYDGSHM CDTTARCHPG   780
TGVDYTCECA SGYQGDGRNC VDENECATGF HRCGPNSVCI NLPGSYRCEC RSGYEFADDR   840
HTCILITPPA NPCEDGSHTC APAGQARCVH HGGSTFSCAC LPGYAGDGHQ CTDVDECSEN   900
RCHPAATCYN TPGSFSCRCQ PGYYGDGFQC IPDSTSSLTP CEQQQRHAQA QYAYPGARFH   960
IPQCDEQGNF LPLQCHGSTG FCWCVDPDGH EVPGTQTPPG STPPHCGPSP EPTQRPPTIC  1020
ERWRENLLEH YGGTPRDDQY VPQCDDLGHF IPLQCHGKSD FCWCVDKDGR EVQGTRSQPG  1080
TTPACIPTVA PPMVRPTPRP DVTPPSVGTF LLYTQGQQIG YLPLNGTRLQ KDAAKTLLSL  1140
HGSIIVGIDY DCRERMVYWT DVAGRTISRA GLELGAEPET IVNSGLISPE GLAIDHIRRT  1200
MYWTDSVLDK IESALLDGSE RKVLFYTDLV NPRAIAVDPI RGNLYWTDWN REAPKIETSS  1260
LDGENRRILI NTDIGLPNGL TFDPFSKLLC WADAGTKKLE CTLPDGTGRR VIQNNLKYPF  1320
SIVSYADHFY HTDWRRDGVV SVNKHSGQFT DEYLPEQRSH LYGITAVYPY CPTGRK
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Seq ID NO: 118 DNA sequence
Nucleic Acid Accession #: NM_003088.1
Coding sequence: 112-1593 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
GCGGAGGGTG CGTGCGGGCC GCGGCAGCCG AACAAAGGAG CAGGGGCGCC GCCGCAGGGA    60
CCCGCCACCC ACCTCCCGGG GCCGCGCAGC GGCCTCTCGT CTACTGCCAC CATGACCGCC   120
AACGGCACAG CCGAGGCGGT GCAGATCCAG TTCGGCCTCA TCAACTGCGG CAACAAGTAC   180
CTGACGGCCG AGGCGTTCGG GTTCAAGGTG AACGCGTCCG CCAGCAGCCT GAAGAAGAAG   240
CAGATCTGGA CGCTGGAGCA GCCCCCTGAC GAGGCGGGCA GCGCGGCCGT GTGCCTGCGC   300
AGCCACCTGG GCCGCTACCT GGCGGCGGAC AAGGACGGCA ACGTGACCTG CGAGCGCGAG   360
GTGCCCGGTC CCGACTGCCG TTTCCTCATC GTGGCGCACG ACGACGGTCG CTGGTCGCTG   420
CAGTCCGAGG CGCACCGGCG CTACTTCGGC GGCACCGAGG ACCGCCTGTC CTGCTTCGCG   480
CAGACGGTGT CCCCCGCCGA GAAGTGGAGC GTGCACATCG CCATGCACCC TCAGGTCAAC   540
ATCTACAGTG TCACCCGTAA GCGCTACGCG CACCTGAGCG CGCGGCCGGC CGACGAGATC   600
GCCGTGGACC GCGACGTGCC CTGGGGCGTC GACTCGCTCA TCACCCTCGC CTTCCAGGAC   660
CAGCGCTACA GCGTGCAGAC CGCCGACCAC CGCTTCCTGC GCCACGACGG GCGCCTGGTG   720
GCGCGCCCCG AGCCGGCCAC TGGCTACACG CTGGAGTTCC GCTCCGGCAA GGTGGCCTTC   780
CGCGACTGCG AGGGCCGTTA CCTGGCGCCG TCGGGGCCCA GCGGCACGCT CAAGGCGGGC   840
AAGGCCACCA AGGTGGGCAA GGACGAGCTC TTTGCTCTGG AGCAGAGCTG CGCCCAGGTC   900
GTGCTGCAGG CGGCCAACGA GAGGAACGTG TCCACGCGCC AGGGTATGGA CCTGTCTGCC   960
AATCAGGACG AGGAGACCGA CCAGGAGACC TTCCAGCTGG AGATCGACCG CGACACCAAA  1020
AAGTGTGCCT TCCGTACCCA CACGGGCAAG TACTGGACGC TGACGGCCAC CGGGGGCGTG  1080
CAGTCCACCG CCTCCAGCAA GAATGCCAGC TGCTACTTTG ACATCGAGTG GCGTGACCGG  1140
CGCATCACAC TGAGGGCGTC CAATGGCAAG TTTGTGACCT CCAAGAAGAA TGGGCAGCTG  1200
GCCGCCTCGG TGGAGACAGC AGGGGACTCA GAGCTCTTCC TCATGAAGCT CATCAACCGC  1260
CCCATCATCG TGTTCCGCGG GGAGCATGGC TTCATCGGCT GCCGCAAGGT CACGGGCACC  1320
CTGGACGCCA ACCGCTCCAG CTATGACGTC TTCCAGCTGG AGTTCAACGA TGGCGCCTAC  1380
AACATCAAAG ACTCCACAGG CAAATACTGG ACGGTGGGCA GTGACTCCGC GGTCACCAGC  1440
AGCGGCGACA CTCCTGTGGA CTTCTTCTTC GAGTTCTGCG ACTATAACAA GGTGGCCATC  1500
AAGGTGGGCG GGCGCTACCT GAAGGGCGAC CACGCAGGCG TCCTGAAGGC CTCGGCGGAA  1560
ACCGTGGACC CCGCCTCGCT CTGGGAGTAC TAGGGCCGGC CCGTCCTTCC CCGCCCCTGC  1620
CCACATGGCG GCTCCTGCCA ACCCTCCCTG CTAACCCCTT CTCCGCCAGG TGGGCTCCAG  1680
GGCGGGAGGC AAGCCCCCTT GCCTTTCAAA CTGGAAACCC CAGAGAAAAC GGTGCCCCCA  1740
CCTGTCGCCC CTATGGACTC CCCACTCTCC CCTCCGCCCG GGTTCCCTAC TCCCCTCGGG  1800
TCAGCGGCTG CGGCCTGGCC CTGGGAGGGA TTTCAGATGC CCCTGCCCTC TTGTCTGCCA  1860
CGGGGCGAGT CTGGCACCTC TTTCTTCTGA CCTCAGACGG CTCTGAGCCT TATTTCTCTG  1920
GAAGCGGCTA AGGGACGGTT GGGGGCTGGG AGCCCTGGGC GTGTAGTGTA ACTGGAATCT  1980
TTTGCCTCTC CCAGCCACCT CCTCCCAGCC CCCCAGGAGA GCTGGGCACA TGTCCCAAGC  2040
CTGTCAGTGG CCCTCCCTGG TGCACTGTCC CCGAAACCCC TGCTTGGGAA GGGAAGCTGT  2100
CGGGAGGGCT AGGACTGACC CTTGTGGTGT TTTTTTGGGT GGTGGCTGGA AACAGCCCCT  2160
CTCCCACGTG GGAGAGGCTC AGCCTGGCTC CCTTCCCTGG AGCGGCAGGG CGTGACGGCC  2220
ACAGGGTCTG CCCGCTGCAC GTTCTGCCAA GGTGGTGGTG GCGGGCGGGT AGGGGTGTGG  2280
GGGCCGTCTT CCTCCTGTCT CTTTCCTTTC ACCCTAGCCT GACTGGAAGC AGAAAATGAC  2340
CAAATCAGTA TTTTTTTTAA TGAAATATTA TTGCTGGAGG CGTCCCAGGC AAGCCTGGCT  2400
GTAGTAGCGA GTGATCTGGC GGGGGGCGTC TCAGCACCCT CCCCAGGGGG TGCATCTCAG  2460
CCCCCTCTTT CCGTCCTTCC CGTCCAGCCC CAGCCCTGGG CCTGGGCTGC CGACACCTGG  2520
GCCAGAGCCC CTGCTGTGAT TGGTGCTCCC TGGGCCTCCC GGGTGGATGA AGCCAGGCGT  2580
CGCCCCCTCC GGGAGCCCTG GGGTGAGCCG CCGGGGCCCC CCTGCTGCCA GCCTCCCCCG  2640
TCCCCAACAT GCATCTCACT CTGGGTGTCT TGGTCTTTTA TTTTTTGTAA GTGTCATTTG  2700
TATAACTCTA AACGCCCATG ATAGTAGCTT CAAACTGGAA ATAGCGAAAT AAAATAACTC  2760
AGTCTGC
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Seq ID No: 119 Protein sequence:
Protein Accession #: NP_003079.1

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1          11         21         31         41         51
|          |          |          |          |          |
MTANGTAEAV QIQFGLINCG NKYLTAEAFG FKVNASASSL KKKQIWTLEQ PPDEAGSAAV    60
CLRSHLGRYL AADKDGNVTC EREVPGPDCR FLIVAHDDGR WSLQSEAHRR YFGGTEDRLS   120
CFAQTVSPAE KWSVHIAMHP QVNIYSVTRK RYAHLSARPA DEIAVDRDVP WGVDSLITLA   180
FQDQRYSVQT ADHRFLRHDG RLVARPEPAT GYTLEFRSGK VAFRDCEGRY LAPSGPSGTL   240
KAGKATKVGK DELFALEQSC AQVVLQAANE RNVSTRQGMD LSANQDEETD QETFQLEIDR   300
DTKKCAFRTH TGKYWTLTAT GGVQSTASSK NASCYFDIEW RDRRITLRAS NGKFVTSKKN   360
GQLAASVETA GDSELFLMKL INRPIIVFRG EHGFIGCRKV TGTLDANRSS YDVFQLEFND   420
GAYNIKDSTG KYWTVGSDSA VTSSGDTPVD FFFEFCDYNK VAIKVGGRYL KGDHAGVLKA   480
SAETVDPASL WEY
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Seq ID NO: 120 DNA sequence
Nucleic Acid Accession #: NM_006404.1
Coding sequence: 25-741 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
CAGGTCCGGA GCCTCAACTT CAGGATGTTG ACAACATTGC TGCCGATACT GCTGCTGTCT    60
GGCTGGGCCT TTTGTAGCCA AGACGCCTCA GATGGCCTCC AAAGACTTCA TATGCTCCAG   120
ATCTCCTACT TCCGCGACCC CTATCACGTG TGGTACCAGG GCAACGCGTC GCTGGGGGGA   180
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CACCTAACGC ACGTGCTGGA AGGCCCAGAC ACCAACACCA CGATCATTCA GCTGCAGCCC    240
TTGCAGGAGC CCGAGAGCTG GGCGCGCACG CAGAGTGGCC TGCAGTCCTA CCTGCTCCAG    300
TTCCACGGCC TCGTGCGCCT GGTGCACCAG GAGCGGACCT TGGCCTTTCC TCTGACCATC    360
CGCTGCTTCC TGGGCTGTGA GCTGCCTCCC GAGGGCTCTA GAGCCCATGT CTTCTTCGAA    420
GTGGCTGTGA ATGGGAGCTC CTTTGTGAGT TTCCGGCCGG AGAGAGCCTT GTGGCAGGCA    480
GACACCCAGG TCACCTCCGG AGTGGTCACC TTCACCCTGC AGCAGCTCAA TGCCTACAAC    540
CGCACTCGGT ATGAACTGCG GGAATTCCTG GAGGACACCT GTGTGCAGTA TGTGCAGAAA    600
CATATTTCCG CGGAAAACAC GAAAGGGAGC CAAACAAGCC GCTCCTACAC TTCGCTGGTC    660
CTGGGCGTCC TGGTGGGCGG TTTCATCATT GCTGGTGTGG CTGTAGGCAT CTTCCTGTGC    720
ACAGGTGGAC GGCGATGTTA ATTACTCTCC AGCCCCGTCA GAAGGGGCTG GATTGATGGA    780
GGCTGGCAAG GGAAAGTTTC AGCTCACTGT GAAGCCAGAC TCCCCAACTG AAACACCAGA    840
AGGTTTGGAG TGACAGCTCC TTTCTTCTCC CACATCTGCC CACTGAAGAT TTGAGGGAGG    900
GGAGATGGAG AGGAGAGGTG GACAAAGTAC TTGGTTTGCT AAGAACCTAA GAACGTGTAT    960
GCTTTGCTGA ATTAGTCTGA TAAGTGAATG TTTATCTATC TTTGTGGAAA ACAGATAATG   1020
GAGTTGGGGC AGGAAGCCTA TGCGCCATCC TCCAAAGACA GACAGAATCA CCTGAGGCGT   1080
TCAAAAGATA TAACCAAATA AACAAGTCAT CCACAATCAA AATACAACAT TCAATACTTC   1140
CAGGTGTGTC AGACTTGGGA TGGGACGCTG ATATAATAGG GTAGAAAGAA GTAACACGAA   1200
GAAGTGGTGG AAATGTAAAA TCCAAGTCAT ATGGCAGTGA TCAATTATTA ATCAATTAAT   1260
AATATTAATA AATTTCTTAT ATTT
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Seq ID No: 121 Protein sequence:
Protein Accession #: NP_006395.1

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1          11         21         31         41         51
|          |          |          |          |          |
MLTTLLPILL LSGWAFCSQD ASDGLQRLHM LQISYFRDPY HVWYQGNASL GGHLTHVLEG     60
PDTNTTIIQL QPLQEPESWA RTQSGLQSYL LQFHGLVRLV HQERTLAFPL TIRCFLGCEL    120
PPEGSRAHVF FEVAVNGSSF VSFRPERALW QADTQVTSGV VTFTLQQLNA YNRTRYELRE    180
FLEDTCVQYV QKHISAENTK GSQTSRSYTS LVLGVLVGGF IIAGVAVGIF LCTGGRRC
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Seq ID NO: 122 DNA sequence
Nucleic Acid Accession #: none found
Coding sequence: 2-505 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
CGAGAAGCTG GGAGAGACAC CACTTGTCCC TGAACAAGAC AATTCAGTAA CATCTATTCC     60
TGAGATTCCT CGATGGGGAT CACAGAGCAC GATGTCTACC CTTCAAATGT CCCTTCAAGC    120
CGAGTCAAAG GCCACTATCA CCCCATCAGG GAGCGTGATT TCCAAGTTTA ATTCTACGAC    180
TTCCTCTGCC ACTCCTCAGG CTTTCGACTC CTCCTCTGCC GTGGTCTTCA TATTTGTGAG    240
CACAGCAGTA GTAGTGTTGG TGATCTTGAC CATGACAGTA CTGGGGCTTG TCAAGCTCTG    300
CTTTCACGAA AGCCCCTCTT CCCAGCCAAG GAAGGAGTCT ATGGGCCCGC CGGGCCTGGA    360
GAGTGATCCT GAGCCCGCTG CTTTGGGCTC CAGTTCTGCA CATTGCACAA ACAATGGGGT    420
GAAAGTCGGG GACTGTGATC TGCGGGACAG AGCAGAGGGT GCCTTGCTGG CGGAGTCCCC    480
TCTTGGCTCT AGTGATGCAT AGGGAAACAG GGGACATGGG CACTCCTGTG AACAGTTTTT    540
CACTTTTGAT GAAACGGGGA ACCAAGAGGA ACTTACTTGT GTAACTGACA ATTTCTGCAG    600
AAATCCCCCT TCCTCTAAAT TCCCTTTACT CCACTGAGGA GCTAAATCAG AACTGCACAC    660
TCCTTCCCTG ATGATAGAGG AAGTGGAAGT GCCTTTAGGA TGGTGATACT GGGGGACCGG    720
GTAGTGCTGG GGAGAGATAT TTTCTTATGT TTATTCGGAG AATTTGGAGA AGTGATTGAA    780
CTTTTCAAGA CATTGGAAAC AAATAGAACA CAATATAATT TACATTAAAA AATAATTTCT    840
ACCAAAATGG AAAGGAAATG TTCTATGTTG TTCAGGCTAG GAGTATATTG GTTCGAAATC    900
CCAGGGAAAA AAATAAAAAT AAAAAATTAA AGGATTGTTG ATAAAA
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Seq ID No: 123 Protein sequence:
Protein Accession #: none found

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1          11         21         31         41         51
|          |          |          |          |          |
EKLGETPLVP EQDNSVTSIP EIPRWGSQST MSTLQMSLQA ESKATITPSG SVISKFNSTT     60
SSATPQAFDS SSAVVFIFVS TAVVVLVILT MTVLGLVKLC FHESPSSQPR KESMGPPGLE    120
SDPEPAALGS SSAHCTNNGV KVGDCDLRDR AEGALLAESP LGSSDA
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Seq ID NO: 124 DNA sequence
Nucleic Acid Accession #: NM_006500.1
Coding sequence: 27-1967 (underlined sequences correspond to start and stop codons)

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ACTTGCGTCT CGCCCTCCGG CCAAGCATGG GGCTTCCCAG GCTGGTCTGC GCCTTCTTGC     60
TCGCCGCCTG CTGCTGCTGT CCTCGCGTCG CGGGTGTGCC CGGAGAGGCT GAGCAGCCTG    120
CGCCTGAGCT GGTGGAGGTG GAAGTGGGCA GCACAGCCCT TCTGAAGTGC GGCCTCTCCC    180
AGTCCCAAGG CAACCTCAGC CATGTCGACT GGTTTTCTGT CCACAAGGAG AAGCGGACGC    240
TCATCTTCCG TGTGCGCCAG GGCCAGGGCC AGAGCGAACC TGGGGAGTAC GAGCAGCGGC    300
TCAGCCTCCA GGACAGAGGG GCTACTCTGG CCCTGACTCA AGTCACCCCC CAAGACGAGC    360
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GCATCTTCTT GTGCCAGGGC AAGCGCCCTC GGTCCCAGGA GTACCGCATC CAGCTCCGCG   420
TCTACAAAGC TCCGGAGGAG CCAAACATCC AGGTCAACCC CCTGGGCATC CCTGTGAACA   480
GTAAGGAGCC TGAGGAGGTC GCTACCTGTG TAGGGAGGAA CGGGTACCCC ATTCCTCAAG   540
TCATCTGGTA CAAGAATGGC CGGCCTCTGA AGGAGGAGAA GAACCGGGTC CACATTCAGT   600
CGTCCCAGAC TGTGGAGTCG AGTGGTTTGT ACACCTTGCA GAGTATTCTG AAGGCACAGC   660
TGGTTAAAGA AGACAAAGAT GCCCAGTTTT ACTGTGAGCT CAACTACCGG CTGCCCAGTG   720
GGAACCACAT GAAGGAGTCC AGGGAAGTCA CCGTCCCTGT TTTCTACCCG ACAGAAAAAG   780
TGTGGCTGGA AGTGGAGCCC GTGGGAATGC TGAAGGAAGG GGACCGCGTG GAAATCAGGT   840
GTTTGGCTGA TGGCAACCCT CCACCACACT TCAGCATCAG CAAGCAGAAC CCCAGCACCA   900
GGGAGGCAGA GGAAGAGACA ACCAACGACA ACGGGGTCCT GGTGCTGGAG CCTGCCCGGA   960
AGGAACACAG TGGGCGCTAT GAATGTCAGG CCTGGAACTT GGACACCATG ATATCGCTGC  1020
TGAGTGAACC ACAGGAACTA CTGGTGAACT ATGTGTCTGA CGTCCGAGTG AGTCCCGCAG  1080
CCCCTGAGAG ACAGGAAGGC AGCAGCCTCA CCCTGACCTG TGAGGCAGAG AGTAGCCAGG  1140
ACCTCGAGTT CCAGTGGCTG AGAGAAGAGA CAGACCAGGT GCTGGAAAGG GGGCCTGTGC  1200
TTCAGTTGCA TGACCTGAAA CGGGAGGCAG GAGGCGGCTA TCGCTGCGTG GCGTCTGTGC  1260
CCAGCATACC CGGCCTGAAC CGCACACAGC TGGTCAAGCT GGCCATTTTT GGCCCCCCTT  1320
GGATGGCATT CAAGGAGAGG AAGGTGTGGG TGAAAGAGAA TATGGTGTTG AATCTGTCTT  1380
GTGAAGCGTC AGGGCACCCC CGGCCCACCA TCTCCTGGAA CGTCAACGGC ACGGCAAGTG  1440
AACAAGACCA AGATCCACAG CGAGTCCTGA GCACCCTGAA TGTCCTCGTG ACCCCGGAGC  1500
TGTTGGAGAC AGGTGTTGAA TGCACGGCCT CCAACGACCT GGGCAAAAAC ACCAGCATCC  1560
TCTTCCTGGA GCTGGTCAAT TTAACCACCC TCACACCAGA CTCCAACACA ACCACTGGCC  1620
TCAGCACTTC CACTGCCAGT CCTCATACCA GAGCCAACAG CACCTCCACA GAGAGAAAGC  1680
TGCCGGAGCC GGAGAGCCGG GGCGTGGTCA TCGTGGCTGT GATTGTGTGC ATCCTGGTCC  1740
TGGCGGTGCT GGGCGCTGTC CTCTATTTCC TCTATAAGAA GGGCAAGCTG CCGTGCAGGC  1800
GCTCAGGGAA GCAGGAGATC ACGCTGCCCC CGTCTCGTAA GACCGAACTT GTAGTTGAAG  1860
TTAAGTCAGA TAAGCTCCCA GAAGAGATGG GCCTCCTGCA GGGCAGCAGC GGTGACAAGA  1920
GGGCTCCGGG AGACCAGGGA GAGAAATACA TCGATCTGAG GCATTAGCCC CGAATCACTT  1980
CAGCTCCCTT CCCTGCCTGG ACCATTCCCA GCTCCCTGCT CACTCTTCTC TCAGCCAAAG  2040
CCTCCAAAGG GACTAGAGAG AAGCCTCCTG CTCCCCTCAC CTGCACACCC CCTTTCAGAG  2100
GGCCACTGGG TTAGGACCTG AGGACCTCAC TTGGCCCTGC AAGCCGCTTT TCAGGGACCA  2160
GTCCACCACC ATCTCCTCCA CGTTGAGTGA AGCTCATCCC AAGCAAGGAG CCCCAGTCTC  2220
CCGAGCGGGT AGGAGAGTTT CTTGCAGAAC GTGTTTTTTC TTTACACACA TTATGGCTGT  2280
AAATACCTGG CTCCTGCCAG CAGCTGAGCT GGGTAGCCTC TCTGAGCTGG TTTCCTGCCC  2340
CAAAGGCTGG CTTCCACCAT CCAGGTGCAC CACTGAAGTG AGGACACACC GGAGCCAGGC  2400
GCCTGCTCAT GTTGAAGTGC GCTGTTCACA CCCGCTCCGG AGAGCACCCC AGCGGCATCC  2460
AGAAGCAGCT GCAGTGTTGC TGCCACCACC CTCCTGCTCG CCTCTTCAAA GTCTCCTGTG  2520
ACATTTTTTC TTTGGTCAGA AGCCAGGAAC TGGTGTCATT CCTTAAAAGA TACGTGCCGG  2580
GGCCAGGTGT GGTGGCTCAC GCCTGTAATC CCAGCACTTT GGGAGGCCGA GGCGGGCGGA  2640
TCACAAAGTC AGGACGAGAC CATCCTGGCT AACACGGTGA AACCCTGTCT CTACTAAAAA  2700
TACAAAAAAA AATTAGCTAG GCGTAGTGGT TGGCACCTAT AGTCCCAGCT ACTCGGAAGG  2760
CTGAAGCAGG AGAATGGTAT GAATCCAGGA GGTGGAGCTT GCAGTGAGCC GAGACCGTGC  2820
CACTGCACTC CAGCCTGGGC AACACAGCGA GACTCCGTCT CGAGGAAAAA AAAAGAAAAG  2880
ACGCGTACCT GCGGTGAGGA AGCTGGGCGC TGTTTTCGAG TTCAGGTGAA TTAGCCTCAA  2940
TCCCCGTGTT CACTTGCTCC CATAGCCCTC TTGATGGATC ACGTAAAACT GAAAGGCAGC  3000
GGGGAGCAGA CAAAGATGAG GTCTACACTG TCCTTCATGG GGATTAAAGC TATGGTTATA  3060
TTAGCACCAA ACTTCTACAA ACCAAGCTCA GGGCCCCAAC CCTAGAAGGG CCCAAATGAG  3120
AGAATGGTAC TTAGGGATGG AAAACGGGGC CTGGCTAGAG CTTCGGGTGT GTGTGTCTGT  3180
CTGTGTGTAT GCATACATAT GTGTGTATAT ATGGTTTTGT CAGGTGTGTA AATTTGCAAA  3240
TTGTTTCCTT TATATATGTA TGTATATATA TATATGAAAA TATATATATA TATGAAAAAT  3300
AAAGCTTAAT TGTCCCAGAA AATCATACAT TGCTTTTTTA TTCTACATGG GTACCACAGG  3360
AACCTGGGGG CCTGTGAAAC TACAACCAAA AGGCACACAA AACCGTTTCC AGTTGGCAGC  3420
AGAGATCAGG GGTTACCTCT GCTTCTGAGC AAATGGCTCA AGCTCTACCA GAGCAGACAG  3480
CTACCCTACT TTTCAGCAGC AAAACGTCCC GTATGACGCA GCACGAAGGG CCTGGCAGGC  3540
TGTTAGCAGG AGCTATGTCC CTTCCTATCG TTTCCGTCCA CTT
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Seq ID No: 125 Protein sequence:
Protein Accession #: NP_006491.1

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1          11         21         31         41         51
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MGLPRLVCAF LLAACCCCPR VAGVPGEAEQ PAPELVEVEV GSTALLKCGL SQSQGNLSHV    60
DWFSVHKEKR TLIFRVRQGQ GQSEPGEYEQ RLSLQDRGAT LALTQVTPQD ERIFLCQGKR   120
PRSQEYRIQL RVYKAPEEPN IQVNPLGIPV NSKEPEEVAT CVGRNGYPIP QVIWYKNGRP   180
LKEEKNRVHI QSSQTVESSG LYTLQSILKA QLVKEDKDAQ FYCELNYRLP SGNHMKESRE   240
VTVPVFYPTE KVWLEVEPVG MLKEGDRVEI RCLADGNPPP HFSISKQNPS TREAEEETTN   300
DNGVLVLEPA RKEHSGRYEC QAWNLDTMIS LLSEPQELLV NYVSDVRVSP AAPERQEGSS   360
LTLTCEAESS QDLEFQWLRE ETDQVLERGP VLQLHDLKRE AGGGYRCVAS VPSIPGLNRT   420
QLVKLAIFGP PWMAFKERKV WVKENMVLNL SCEASGHPRP TISWNVNGTA SEQDQDPQRV   480
LSTLNVLVTP ELLETGVECT ASNDLGKNTS ILFLELVNLT TLTPDSNTTT GLSTSTASPH   540
TRANSTSTER KLPEPESRGV VIVAVIVCIL VLAVLGAVLY FLYKKGKLPC RRSGKQEITL   600
PPSRKTELVV EVKSDKLPEE MGLLQGSSGD KRAPGDQGEK YIDLRH
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Seq ID NO: 126 DNA sequence
Nucleic Acid Accession #: NM_001955.1

Coding sequence: 337-975 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
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GGAGCTGTTT ACCCCCACTC TAATAGGGGT TCAATATAAA AAGCCGGCAG AGAGCTGTCC    60
AAGTCAGACG CGCCTCTGCA TCTGCGCCAG GCGAACGGGT CCTGCGCCTC CTGCAGTCCC   120
AGCTCTCCAC CACCGCCGCG TGCGCCTGCA GACGCTCCGC TCGCTGCCTT CTCTCCTGGC   180
AGGCGCTGCC TTTTCTCCCC GTTAAAGGGC ACTTGGGCTG AAGGATCGCT TTGAGATCTG   240
AGGAACCCGC AGCGCTTTGA GGGACCTGAA GCTGTTTTTC TTCGTTTTCC TTTGGGTTCA   300
GTTTGAACGG GAGGTTTTTG ATCCCTTTTT TTCAGAATGG ATTATTTGCT CATGATTTTC   360
TCTCTGCTGT TTGTGGCTTG CCAAGGAGCT CCAGAAACAG CAGTCTTAGG CGCTGAGCTC   420
AGCGCGGTGG GTGAGAACGG CGGGGAGAAA CCCACTCCCA GTCCACCCTG GCGGCTCCGC   480
CGGTCCAAGC GCTGCTCCTG CTCGTCCCTG ATGGATAAAG AGTGTGTCTA CTTCTGCCAC   540
CTGGACATCA TTTGGGTCAA CACTCCCGAG CACGTTGTTC CGTATGGACT TGGAAGCCCT   600
AGGTCCAAGA GAGCCTTGGA GAATTTACTT CCCACAAAGG CAACAGACCG TGAGAATAGA   660
TGCCAATGTG CTAGCCAAAA AGACAAGAAG TGCTGGAATT TTTGCCAAGC AGGAAAAGAA   720
CTCAGGGCTG AAGACATTAT GGAGAAAGAC TGGAATAATC ATAAGAAAGG AAAAGACTGT   780
TCCAAGCTTG GGAAAAAGTG TATTTATCAG CAGTTAGTGA GAGGAAGAAA AATCAGAAGA   840
AGTTCAGAGG AACACCTAAG ACAAACCAGG TCGGAGACCA TGAGAAACAG CGTCAAATCA   900
TCTTTTCATG ATCCCAAGCT GAAAGGCAAG CCCTCCAGAG AGCGTTATGT GACCCACAAC   960
CGAGCACATT GGTGACAGAC TTCGGGGCCT GTCTGAAGCC ATAGCCTCCA CGGAGAGCCC  1020
TGTGGCCGAC TCTGCACTCT CCACCCTGGC TGGGATCAGA GCAGGAGCAT CCTCTGCTGG  1080
TTCCTGACTG GCAAAGGACC AGCGTCCTCG TTCAAAACAT TCCAAGAAAG GTTAAGGAGT  1140
TCCCCCAACC ATCTTCACTG GCTTCCATCA GTGGTAACTG CTTTGGTCTC TTCTTTCATC  1200
TGGGGATGAC AATGGACCTC TCAGCAGAAA CACACAGTCA CATTCGAATT C
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Seq ID No: 127 Protein sequence:
Protein Accession #: NP_001946.1

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1          11         21         31         41         51
|          |          |          |          |          |
MDYLLMIFSL LFVACQGAPE TAVLGAELSA VGENGGEKPT PSPPWRLRRS KRCSCSSLMD    60
KECVYFCHLD IIWVNTPEHV VPYGLGSPRS KRALENLLPT KATDRENRCQ CASQKDKKCW   120
NFCQAGKELR AEDIMEKDWN NHKKGKDCSK LGKKCIYQQL VRGRKIRRSS EEHLRQTRSE   180
TMRNSVKSSF HDPKLKGKPS RERYVTHNRA HW
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Seq ID NO: 128 DNA sequence
Nucleic Acid Accession #: NM_001721.1
Coding sequence: 34-2061 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
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GCAAGCACGG AACAAGCTGA GACGGATGAT AATATGGATA CAAAATCTAT TCTAGAAGAA    60
CTTCTTCTCA AAAGATCACA GCAAAAGAAG AAAATGTCAC CAAATAATTA CAAAGAACGG   120
CTTTTTGTTT TGACCAAAAC AAACCTTTCC TACTATGAAT ATGACAAAAT GAAAAGGGGC   180
AGCAGAAAAG GATCCATTGA AATTAAGAAA ATCAGATGTG TGGAGAAAGT AAATCTCGAG   240
GAGCAGACGC CTGTAGAGAG ACAGTACCCA TTTCAGATTG TCTATAAAGA TGGGCTTCTC   300
TATGTCTATG CATCAAATGA AGAGAGCCGA AGTCAGTGGT TGAAAGCATT ACAAAAAGAG   360
ATAAGGGGTA ACCCCCACCT GCTGGTCAAG TACCATAGTG GGTTCTTCGT GGACGGGAAG   420
TTCCTGTGTT GCCAGCAGAG CTGTAAAGCA GCCCCAGGAT GTACCCTCTG GGAAGCATAT   480
GCTAATCTGC ATACTGCAGT CAATGAAGAG AAACACAGAG TTCCCACCTT CCCAGACAGA   540
GTGCTGAAGA TACCTCGGGC AGTTCCTGTT CTCAAAATGG ATGCACCATC TTCAAGTACC   600
ACTCTAGCCC AATATGACAA CGAATCAAAG AAAAACTATG GCTCCCAGCC ACCATCTTCA   660
AGTACCAGTC TAGCGCAATA TGACAGCAAC TCAAAGAAAA TCTATGGCTC CCAGCCAAAC   720
TTCAACATGC AGTATATTCC AAGGGAAGAC TTCCCTGACT GGTGGCAAGT AAGAAAACTG   780
AAAAGTAGCA GCAGCAGTGA AGATGTTGCA AGCAGTAACC AAAAAGAAAG AAATGTGAAT   840
CACACCACCT CAAAGATTTC ATGGGAATTC CCTGAGTCAA GTTCATCTGA AGAAGAGGAA   900
AACCTGGATG ATTATGACTG GTTTGCTGGT AACATCTCCA GATCACAATC TGAACAGTTA   960
CTCAGACAAA AGGGAAAAGA AGGAGCATTT ATGGTTAGAA ATTCGAGCCA AGTGGGAATG  1020
TACACAGTGT CCTTATTTAG TAAGGCTGTG AATGATAAAA AAGGAACTGT CAAACATTAC  1080
CACGTGCATA CAAATGCTGA GAACAAATTA TACCTGGCAG AAAACTACTG TTTTGATTCC  1140
ATTCCAAAGC TTATTCATTA TCATCAACAC AATTCAGCAG GCATGATCAC ACGGCTCCGC  1200
CACCCTGTGT CAACAAAGGC CAACAAGGTC CCCGACTCTG TGTCCCTGGG AAATGGAATC  1260
TGGGAACTGA AAAGAGAAGA GATTACCTTG TTGAAGGAGC TGGGAAGTGG CCAGTTTGGA  1320
GTGGTCCAGC TGGGCAAGTG GAAGGGGCAG TATGATGTTG CTGTTAAGAT GATCAAGGAG  1380
GGCTCCATGT CAGAAGATGA ATTCTTTCAG GAGGCCCAGA CTATGATGAA ACTCAGCCAT  1440
CCCAAGCTGG TTAAATTCTA TGGAGTGTGT TCAAAGGAAT ACCCCATATA CATAGTGACT  1500
GAATATATAA GCAATGGCTG CTTGCTGAAT TACCTGAGGA GTCACGGAAA AGGACTTGAA  1560
CCTTCCCAGC TCTTAGAAAT GTGCTACGAT GTCTGTGAAG GCATGGCCTT CTTGGAGAGT  1620
CACCAATTCA TACACCGGGA CTTGGCTGCT CGTAACTGCT TGGTGGACAG AGATCTCTGT  1680
GTGAAAGTAT CTGACTTTGG AATGACAAGG TATGTTCTTG ATGACCAGTA TGTCAGTTCA  1740
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GTCGGAACAA AGTTTCCAGT CAAGTGGTCA GCTCCAGAGG TGTTTCATTA CTTCAAATAC  1800
AGCAGCAAGT CAGACGTATG GGCATTTGGG ATCCTGATGT GGGAGGTGTT CAGCCTGGGG  1860
AAGCAGCCCT ATGACTTGTA TGACAACTCC CAGGTGGTTC TGAAGGTCTC CCAGGGCCAC  1920
AGGCTTTACC GGCCCCACCT GGCATCGGAC ACCATCTACC AGATCATGTA CAGCTGCTGG  1980
CACGAGCTTC CAGAAAAGCG TCCCACATTT CAGCAACTCC TGTCTTCCAT TGAACCACTT  2040
CGGGAAAAAG ACAAGCATTG AAGAAGAAAT TAGGAGTGCT GATAAGAATG AATATAGATG  2100
CTGGCCAGCA TTTTCATTCA TTTTAAGGAA AGTAGGAAGG CATAAGTAAT TTTAGCTAGT  2160
TTTTAATAGT GTTCTCTGTA TTGTCTATTA TTTAGAAATG AACAAGGCAG GAAACAAAAG  2220
ATTCCCTTGA AATTTAGATC AAATTAGTAA TTTTGTTTTA TGCTGCTCCT GATATAACAC  2280
TTTCCAGCCT ATAGCAGAAG CACATTTTCA GACTGCAATA TAGAGACTGT GTTCATGTGT  2340
AAAGACTGAG CAGAACTGAA AAATTACTTA TTGGATATTC ATTCTTTTCT TTATATTGTC  2400
ATTGTCACAA CAATTAAATA TACTACCAAG TACAGAAATG TGGAAAAAAA AAACCG
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Seq ID No: 129 Protein sequence:
Protein Accession #: NP_001712.1

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RCVEKVNLEE QTPVERQYPF QIVYKDGLLY VYASNEESRS QWLKALQKEI RGNPHLLVKY   120
HSGFFVDGKF LCCQQSCKAA PGCTLWEAYA NLHTAVNEEK HRVPTFPDRV LKIPRAVPVL   180
KMDAPSSSTT LAQYDNESKK NYGSQPPSSS TSLAQYDSNS KKIYGSQPNF NMQYIPREDF   240
PDWWQVRKLK SSSSSEDVAS SNQKERNVNH TTSKISWEFP ESSSSEEEEN LDDYDWFAGN   300
ISRSQSEQLL RQKGKEGAFM VRNSSQVGMY TVSLFSKAVN DKKGTVKHYH VHTNAENKLY   360
LAENYCFDSI PKLIHYHQHN SAGMITRLRH PVSTKANKVP DSVSLGNGIW ELKREEITLL   420
KELGSGQFGV VQLGKWKGQY DVAVKMIKEG SMSEDEFFQE AQTMMKLSHP KLVKFYGVCS   480
KEYPIYIVTE YISNGCLLNY LRSHGKGLEP SQLLEMCYDV CEGMAFLESH QFIHRDLAAR   540
NCLVDRDLCV KVSDFGMTRY VLDDQYVSSV GTKFPVKWSA PEVFHYFKYS SKSDVWAFGI   600
LMWEVFSLGK QPYDLYDNSQ VVLKVSQGHR LYRPHLASDT IYQIMYSCWH ELPEKRPTFQ   660
QLLSSIEPLR EKDKH
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Seq ID NO: 130 DNA sequence
Nucleic Acid Accession #: NM_012072.2
Coding sequence: 149-2107 (underlined sequences correspond to start and stop codons)

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CCCCTTGGGG CCCAGCTGGG AGCCGAGATA GAAGCTCCTG TCGCCGCTGG GCTTCTCGCC   120
TCCCGCAGAG GGCCACACAG AGACCGGGAT GGCCACCTCC ATGGGCCTGC TGCTGCTGCT   180
GCTGCTGCTC CTGACCCAGC CCGGGGCGGG GACGGGAGCT GACACGGAGG CGGTGGTCTG   240
CGTGGGGACC GCCTGCTACA CGGCCCACTC GGGCAAGCTG AGCGCTGCCG AGGCCCAGAA   300
CCACTGCAAC CAGAACGGGG GCAACCTGGC CACTGTGAAG AGCAAGGAGG AGGCCCAGCA   360
CGTCCAGCGA GTACTGGCCC AGCTCCTGAG GCGGGAGGCA GCCCTGACGG CGAGGATGAG   420
CAAGTTCTGG ATTGGGCTCC AGCGAGAGAA GGGCAAGTGC CTGGACCCTA GTCTGCCGCT   480
GAAGGGCTTC AGCTGGGTGG GCGGGGGGGA GGACACGCCT TACTCTAACT GGCACAAGGA   540
GCTCCGGAAC TCGTGCATCT CCAAGCGCTG TGTGTCTCTG CTGCTGGACC TGTCCCAGCC   600
GCTCCTTCCC AACCGCCTGC CCAAGTGGTC TGAGGGCCCC TGTGGGAGCC CAGGCTCCCC   660
CGGAAGTAAC ATTGAGGGCT TCGTGTGCAA GTTCAGCTTC AAAGGCATGT GCCGGCCTCT   720
GGCCCTGGGG GGCCCAGGTC AGGTGACCTA CACCACCCCC TTCCAGACCA CCAGTTCCTC   780
CTTGGAGGCT GTGCCCTTTG CCTCTGCGGC CAATGTAGCC TGTGGGGAAG GTGACAAGGA   840
CGAGACTCAG AGTCATTATT TCCTGTGCAA GGAGAAGGCC CCCGATGTGT TCGACTGGGG   900
CAGCTCGGGC CCCCTCTGTG TCAGCCCCAA GTATGGCTGC AACTTCAACA ATGGGGGCTG   960
CCACCAGGAC TGCTTTGAAG GGGGGGATGG CTCCTTCCTC TGCGGCTGCC GACCAGGATT  1020
CCGGCTGCTG GATGACCTGG TGACCTGTGC CTCTCGAAAC CCTTGCAGCT CCAGCCCATG  1080
TCGTGGGGGG GCCACGTGCG TCCTGGGACC CCATGGGAAA AACTACACGT GCCGCTGCCC  1140
CCAAGGGTAC CAGCTGGACT CGAGTCAGCT GGACTGTGTG GACGTGGATG AATGCCAGGA  1200
CTCCCCCTGT GCCCAGGAGT GTGTCAACAC CCCTGGGGGC TTCCGCTGCG AATGCTGGGT  1260
TGGCTATGAG CCGGGCGGTC CTGGAGAGGG GGCCTGTCAG GATGTGGATG AGTGTGCTCT  1320
GGGTCGCTCG CCTTGCGCCC AGGGCTGCAC CAACACAGAT GGCTCATTTC ACTGCTCCTG  1380
TGAGGAGGGC TACGTCCTGG CCGGGGAGGA CGGGACTCAG TGCCAGGACG TGGATGAGTG  1440
TGTGGGCCCG GGGGGCCCCC TCTGCGACAG CTTGTGCTTC AACACACAAG GGTCCTTCCA  1500
CTGTGGCTGC CTGCCAGGCT GGGTGCTGGC CCCAAATGGG GTCTCTTGCA CCATGGGGCC  1560
TGTGTCTCTG GGACCACCAT CTGGGCCCCC CGATGAGGAG GACAAAGGAG AGAAAGAAGG  1620
GAGCACCGTG CCCCGCGCTG CAACAGCCAG TCCCACAAGG GGCCCCGAGG GCACCCCCAA  1680
GGCTACACCC ACCACAAGTA GACCTTCGCT GTCATCTGAC GCCCCCATCA CATCTGCCCC  1740
ACTCAAGATG CTGGCCCCCA GTGGGTCCTC AGGCGTCTGG AGGGAGCCCA GCATCCATCA  1800
CGCCACAGCT GCCTCTGGCC CCCAGGAGCC TGCAGGTGGG GACTCCTCCG TGGCCACACA  1860
AAACAACGAT GGCACTGACG GGCAAAAGCT GCTTTTATTC TACATCCTAG GCACCGTGGT  1920
GGCCATCCTA CTCCTGCTGG CCCTGGCTCT GGGGCTACTG GTCTATCGCA AGCGGAGAGC  1980
GAAGAGGGAG GAGAAGAAGG AGAAGAAGCC CCAGAATGCG GCAGACAGTT ACTCCTGGGT  2040
TCCAGAGCGA GCTGAGAGCA GGGCCATGGA GAACCAGTAC AGTCCGACAC CTGGGACAGA  2100
CTGCTGAAAG TGAGGTGGCC CTAGAGACAC TAGAGTCACC AGCCACCATC CTCAGAGCTT  2160
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TGAACTCCCC ATTCCAAAGG GGCACCCACA TTTTTTTGAA AGACTGGACT GGAATCTTAG  2220
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CCTAGGATGA AAACTAAATC AATTAATTAT TCAATTAGGT AAGAAGATCT GGTTTTTTGG  2580
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TAACCTCTTA GGTGGCAAGG AGGCAGGAAG TGCCTCTTTA GTTCTTACAT TTCTAATAGC  2760
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TCATAGTCCA CAGTTGATGC AGCATCCTGA GATTTTAAAT CCTGAAGTGT GGGTGGCGCA  3240
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TTGCAAATAT TTCTCCCTAT GATAATGCAG TCGATAGTGT GCACTCTTTC TCTCTCTCTC  3480
TCTCTCTCAC ACACACACAC ACACACACAC ACACACACAC AGAGACACGG CACCATTCTG  3540
CCTGGGGCAC TGGAACACAT TCCTGGGGGT CACCGATGGT CAGAGTCACT AGAAGTTACC  3600
TGAGTATCTC TGGGAGGCCT CATGTCTCCT GTGGGCTTTT TACCACCACT GTGCAGGAGA  3660
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GGTTTTGCCT TAGCAATGCA TCGGTCTCTG AGGTGACACT CTGGAGTGGT TGAAGGGCCA  3780
CAAGGTGCAG GGTTAATACT CTTGCCAGTT TTGAAATATA GATGCTATGG TTCAGATTGT  3840
TTTTAATAGA AAACTAAAGG GGCAGGGGAA GTGAAAGGAA AGATGGAGGT TTTGTGCGGC  3900
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AACTCTGGTG TTTAACACTT AAGGGAGACA AAGGCTGTGT CCATTTGGCA AAACTTCCTT  4020
GGCCACGAGA CTCTAGGTGA TGTGTGAAGC TGGGCAGTCT GTGGTGTGGA GAGCAGCCAT  4080
CTGTCTGGCC ATTCAGAGGA TTCTAAAGAC ATGGCTGGAT GCGCTGCTGA CCAACATCAG  4140
CACTTAAATA AATGCAAATG CAACATTTCT CCCTCTGGGC CTTGAAAATC CTTGCCCTTA  4200
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GTATGATTCC TGGGATCCAA CGAGCCCTCC TATTTTCACA GTGTTCTGAT TGCTCTCACA  4320
GCCCAGGCCC ATCGTCTGTT CTCTGAATGC AGCCCTGTTC TCAACAACAG GGAGGTCATG  4380
GAACCCCTCT GTGGAACCCA CAAGGGGAGA AATGGGTGAT AAAGAATCCA GTTCCTCAAA  4440
ACCTTCCCTG GCAGGCTGGG TCCCTCTCCT GCTGGGTGGT GCTTTCTCTT GCACACCACT  4500
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AACCACTGGG CTCAAACACG TGCTTTATTC TCCTGTTTAT TTTTGCTGTT ACTTTGAAGC  4620
ATGGAAATTC TTGTTTGGGG GATCTTGGGG CTACAGTAGT GGGTAAACAA ATGCCCACCG  4680
GCCAAGAGGC CATTAACAAA TCGTCCTTGT CCTGAGGGGC CCCAGCTTGC TCGGGCGTGG  4740
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CACCCAGCTC GCCATGCCTA CTCATTCCTG AATTTCAGGT GCCATCACTG CTCTTTCTTT  5100
CTTCTTTGTC ATTTGAGAAA GGATGCAGGA GGACAATTCC CACAGATAAT CTGAGGAATG  5160
CAGAAAAACC AGGGCAGGAC AGTTATCGAC AATGCATTAG AACTTGGTGA GCATCCTCTG  5220
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CTCTGCCTTC GGTGGCCCAC ACACCTAAGC GTCATCGTCA TTGCCATAGC ATCATGATGC  5340
AACACATCTA CGTGTAGCAC TACGACGTTA TGTTTGGGTA ATGTGGGGAT GAACTGCATG  5400
AGGCTCTGAT TAAGGATGTG GGGAAGTGGG CTGCGGTCAC TGTCGGCCTT GCAAGGCCAC  5460
CTGGAGGCCT GTCTGTTAGC CAGTGGTGGA GGAGCAAGGC TTCAGGAAGG GCCAGCCACA  5520
TGCCATCTTC CCTGCGATCA GGCAAAAAAG TGGAATTAAA AAGTCAAACC TTTATATGCA  5580
TGTGTTATGT CCATTTTGCA GGATGAACTG AGTTTAAAAG AATTTTTTTT TCTCTTCAAG  5640
TTGCTTTGTC TTTTCCATCC TCATCACAAG CCCTTGTTTG AGTGTCTTAT CCCTGAGCAA  5700
TCTTTCGATG GATGGAGATG ATCATTAGGT ACTTTTGTTT CAACCTTTAT TCCTGTAAAT  5760
ATTTCTGTGA AAACTAGGAG AACAGAGATG AGATTTGACA AAAAAAAATT GAATTAAAAA  5820
TAACACAGTC TTTTTAAAAC TAACATAGGA AAGCCTTTCC TATTATTTCT CTTCTTAGCT  5880
TCTCCATTGT CTAAATCAGG AAAACAGGAA AACACAGCTT TCTAGCAGCT GCAAAATGGT  5940
TTAATGCCCC CTACATATTT CCATCACCTT GAACAATAGC TTTAGCTTGG GAATCTGAGA  6000
TATGATCCCA GAAAACATCT GTCTCTACTT CGGCTGCAAA ACCCATGGTT TAAATCTATA  6060
TGGTTTGTGC ATTTTCTCAA CTAAAAATAG AGATGATAAT CCGAATTCTC CATATATTCA  6120
CTAATCAAAG ACACTATTTT CATACTAGAT TCCTGAGACA AATACTCACT GAAGGGCTTG  6180
TTTAAAAATA AATTGTGTTT TGGTCTGTTC TTGTAGATAA TGCCCTTCTA TTTTAGGTAG  6240
AAGCTCTGGA ATCCCTTTAT TGTGCTGTTG CTCTTATCTG CAAGGTGGCA AGCAGTTCTT  6300
TTCAGCAGAT TTTGCCCACT ATTCCTCTGA GCTGAAGTTC TTTGCATAGA TTTGGCTTAA  6360
GCTTGAATTA GATCCCTGCA AAGGCTTGCT CTGTGATGTC AGATGTAATT GTAAATGTCA  6420
GTAATCACTT CATGAATGCT AAATGAGAAT GTAAGTATTT TTAAATGTGT GTATTTCAAA  6480
TTTGTTTGAC TAATTCTGGA ATTACAAGAT TTCTATGCAG GATTTACCTT CATCCTGTGC  6540
ATGTTTCCCA AACTGTGAGG AGGGAAGGCT CAGAGATCGA GCTTCTCCTC TGAGTTCTAA  6600
CAAAATGGTG CTTTGAGGGT CAGCCTTTAG GAAGGTGCAG CTTTGTTGTC CTTTGAGCTT  6660
TCTGTTATGT GCCTATCCTA ATAAACTCTT AAACACATT
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Seq ID No: 131 Protein sequence:
Protein Accession #: NP_036204.1

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1          11         21         31         41         51
|          |          |          |          |          |
MATSMGLLLL LLLLLTQPGA GTGADTEAVV CVGTACYTAH SGKLSAAEAQ NHCNQNGGNL    60
ATVKSKEEAQ HVQRVLAQLL RREAALTARM SKFWIGLQRE KGKCLDPSLP LKGFSWVGGG   120
EDTPYSNWHK ELRNSCISKR CVSLLLDLSQ PLLPNRLPKW SEGPCGSPGS PGSNIEGFVC   180
KFSFKGMCRP LALGGPGQVT YTTPFQTTSS SLEAVPFASA ANVACGEGDK DETQSHYFLC   240
KEKAPDVFDW GSSGPLCVSP KYGCNFNNGG CHQDCFEGGD GSFLCGCRPG FRLLDDLVTC   300
ASRNPCSSSP CRGGATCVLG PHGKNYTCRC PQGYQLDSSQ LDCVDVDECQ DSPCAQECVN   360
TPGGFRCECW VGYEPGGPGE GACQDVDECA LGRSPCAQGC TNTDGSFHCS CEEGYVLAGE   420
DGTQCQDVDE CVGPGGPLCD SLCFNTQGSF HCGCLPGWVL APNGVSCTMG PVSLGPPSGP   480
PDEEDKGEKE GSTVPRAATA SPTRGPEGTP KATPTTSRPS LSSDAPITSA PLKMLAPSGS   540
SGVWREPSIH HATAASGPQE PAGGDSSVAT QNNDGTDGQK LLLFYILGTV VAILLLLALA   600
LGLLVYRKRR AKREEKKEKK PQNAADSYSW VPERAESRAM ENQYSPTPGT DC
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Seq ID NO: 132 DNA sequence
Nucleic Acid Accession #: NM_000963.1
Coding sequence: 135-1949 (underlined sequences correspond to start and stop codons)

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CTCCTTCAGC TCCACAGCCA GACGCCCTCA GACAGCAAAG CCTACCCCCG CGCCGCGCCC   120
TGCCCGCCGC TCGGATGCTC GCCCGCGCCC TGCTGCTGTG CGCGGTCCTG GCGCTCAGCC   180
ATACAGCAAA TCCTTGCTGT TCCCACCCAT GTCAAAACCG AGGTGTATGT ATGAGTGTGG   240
GATTTGACCA GTATAAGTGC GATTGTACCC GGACAGGATT CTATGGAGAA AACTGCTCAA   300
CACCGGAATT TTTGACAAGA ATAAAATTAT TTCTGAAACC CACTCCAAAC ACAGTGCACT   360
ACATACTTAC CCACTTCAAG GGATTTTGGA ACGTTGTGAA TAACATTCCC TTCCTTCGAA   420
ATGCAATTAT GAGTTATGTC TTGACATCCA GATCACATTT GATTGACAGT CCACCAACTT   480
ACAATGCTGA CTATGGCTAC AAAAGCTGGG AAGCCTTCTC TAACCTCTCC TATTATACTA   540
GAGCCCTTCC TCCTGTGCCT GATGATTGCC CGACTCCCTT GGGTGTCAAA GGTAAAAAGC   600
AGCTTCCTGA TTCAAATGAG ATTGTGGAAA AATTGCTTCT AAGAAGAAAG TTCATCCCTG   660
ATCCCCAGGG CTCAAACATG ATGTTTGCAT TCTTTGCCCA GCACTTCACG CATCAGTTTT   720
TCAAGACAGA TCATAAGCGA GGGCCAGCTT TCACCAACGG GCTGGGCCAT GGGGTGGACT   780
TAAATCATAT TTACGGTGAA ACTCTGGCTA GACAGCGTAA ACTGCGCCTT TTCAAGGATG   840
GAAAAATGAA ATATCAGATA ATTGATGGAG AGATGTATCC TCCCACAGTC AAAGATACTC   900
AGGCAGAGAT GATCTACCCT CCTCAAGTCC CTGAGCATCT ACGGTTTGCT GTGGGGCAGG   960
AGGTCTTTGG TCTGGTGCCT GGTCTGATGA TGTATGCCAC AATCTGGCTG CGGGAACACA  1020
ACAGAGTATG CGATGTGCTT AAACAGGAGC ATCCTGAATG GGGTGATGAG CAGTTGTTCC  1080
AGACAAGCAG GCTAATACTG ATAGGAGAGA CTATTAAGAT TGTGATTGAA GATTATGTGC  1140
AACACTTGAG TGGCTATCAC TTCAAACTGA AATTTGACCC AGAACTACTT TTCAACAAAC  1200
AATTCCAGTA CCAAAATCGT ATTGCTGCTG AATTTAACAC CCTCTATCAC TGGCATCCCC  1260
TTCTGCCTGA CACCTTTCAA ATTCATGACC AGAAATACAA CTATCAACAG TTTATCTACA  1320
ACAACTCTAT ATTGCTGGAA CATGGAATTA CCCAGTTTGT TGAATCATTC ACCAGGCAAA  1380
TTGCTGGCAG GGTTGCTGGT GGTAGGAATG TTCCACCCGC AGTACAGAAA GTATCACAGG  1440
CTTCCATTGA CCAGAGCAGG CAGATGAAAT ACCAGTCTTT TAATGAGTAC CGCAAACGCT  1500
TTATGCTGAA GCCCTATGAA TCATTTGAAG AACTTACAGG AGAAAAGGAA ATGTCTGCAG  1560
AGTTGGAAGC ACTCTATGGT GACATCGATG CTGTGGAGCT GTATCCTGCC CTTCTGGTAG  1620
AAAAGCCTCG GCCAGATGCC ATCTTTGGTG AAACCATGGT AGAAGTTGGA GCACCATTCT  1680
CCTTGAAAGG ACTTATGGGT AATGTTATAT GTTCTCCTGC CTACTGGAAG CCAAGCACTT  1740
TTGGTGGAGA AGTGGGTTTT CAAATCATCA ACACTGCCTC AATTCAGTCT CTCATCTGCA  1800
ATAACGTGAA GGGCTGTCCC TTTACTTCAT TCAGTGTTCC AGATCCAGAG CTCATTAAAA  1860
CAGTCACCAT CAATGCAAGT TCTTCCCGCT CCGGACTAGA TGATATCAAT CCCACAGTAC  1920
TACTAAAAGA ACGTTCGACT GAACTGTAGA AGTCTAATGA TCATATTTAT TTATTTATAT  1980
GAACCATGTC TATTAATTTA ATTATTTAAT AATATTTATA TTAAACTCCT TATGTTACTT  2040
AACATCTTCT GTAACAGAAG TCAGTACTCC TGTTGCGGAG AAAGGAGTCA TACTTGTGAA  2100
GACTTTTATG TCACTACTCT AAAGATTTTG CTGTTGCTGT TAAGTTTGGA AAACAGTTTT  2160
TATTCTGTTT TATAAACCAG AGAGAAATGA GTTTTGACGT CTTTTTACTT GAATTTCAAC  2220
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AAATGCTGAA AGTTTTTACA CTGTCGATGT TTCCAATGCA TCTTCCATGA TGCATTAGAA  2340
GTAACTAATG TTTGAAATTT TAAAGTACTT TTGGTTATTT TTCTGTCATC AAACAAAAAC  2400
AGGTATCAGT GCATTATTAA ATGAATATTT AAATTAGACA TTACCAGTAA TTTCATGTCT  2460
ACTTTTTAAA ATCAGCAATG AAACAATAAT TTGAAATTTC TAAATTCATA GGGTAGAATC  2520
ACCTGTAAAA GCTTGTTTGA TTTCTTAAAG TTATTAAACT TGTACATATA CCAAAAAGAA  2580
GCTGTCTTGG ATTTAAATCT GTAAAATCAG ATGAAATTTT ACTACAATTG CTTGTTAAAA  2640
TATTTTATAA GTGATGTTCC TTTTTCACCA AGAGTATAAA CCTTTTTAGT GTGACTGTTA  2700
AAACTTCCTT TTAAATCAAA ATGCCAAATT TATTAAGGTG GTGGAGCCAC TGCAGTGTTA  2760
TCTCAAAATA AGAATATTTT GTTGAGATAT TCCAGAATTT GTTTATATGG CTGGTAACAT  2820
GTAAAATCTA TATCAGCAAA AGGGTCTACC TTTAAAATAA GCAATAACAA AGAAGAAAAC  2880
CAAATTATTG TTCAAATTTA GGTTTAAACT TTTGAAGCAA ACTTTTTTTT ATCCTTGTGC  2940
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ACTGCAGGCC TGGTACTCAG ATTTTGCTAT GAGGTTAATG AAGTACCAAG CTGTGCTTGA  3000
ATAACGATAT GTTTTCTCAG ATTTTCTGTT GTACAGTTTA ATTTAGCAGT CCATATCACA  3060
TTGCAAAAGT AGCAATGACC TCATAAAATA CCTCTTCAAA ATGCTTAAAT TCATTTCACA  3120
CATTAATTTT ATCTCAGTCT TGAAGCCAAT TCAGTAGGTG CATTGGAATC AAGCCTGGCT  3180
ACCTGCATGC TGTTCCTTTT CTTTTCTTCT TTTAGCCATT TTGCTAAGAG ACACAGTCTT  3240
CTCATCACTT CGTTTCTCCT ATTTTGTTTT ACTAGTTTTA AGATCAGAGT TCACTTTCTT  3300
TGGACTCTGC CTATATTTTC TTACCTGAAC TTTTGCAAGT TTTCAGGTAA ACCTCAGCTC  3360
AGGACTGCTA TTTAGCTCCT CTTAAGAAGA TTAAAAGAGA AAAAAAAAGG CCCTTTTAAA  3420
AATAGTATAC ACTTATTTTA AGTGAAAAGC AGAGAATTTT ATTTATAGCT AATTTTAGCT  3480
ATCTGTAACC AAGATGGATG CAAAGAGGCT AGTGCCTCAG AGAGAACTGT ACGGGGTTTG  3540
TGACTGGAAA AAGTTACGTT CCCATTCTAA TTAATGCCCT TTCTTATTTA AAAACAAAAC  3600
CAAATGATAT CTAAGTAGTT CTCAGCAATA ATAATAATGA CGATAATACT TCTTTTCCAC  3660
ATCTCATTGT CACTGACATT TAATGGTACT GTATATTACT TAATTTATTG AAGATTATTA  3720
TTTATGTCTT ATTAGGACAC TATGGTTATA AACTGTGTTT AAGCCTACAA TCATTGATTT  3780
TTTTTTGTTA TGTCACAATC AGTATATTTT CTTTGGGGTT ACCTCTCTGA ATATTATGTA  3840
AACAATCCAA AGAAATGATT GTATTAAGAT TTGTGAATAA ATTTTTAGAA ATCTGATTGG  3900
CATATTGAGA TATTTAAGGT TGAATGTTTG TCCTTAGGAT AGGCCTATGT GCTAGCCCAC  3960
AAAGAATATT GTCTCATTAG CCTGAATGTG CCATAAGACT GACCTTTTAA AATGTTTTGA  4020
GGGATCTGTG GATGCTTCGT TAATTTGTTC AGCCACAATT TATTGAGAAA ATATTCTGTG  4080
TCAAGCACTG TGGGTTTTAA TATTTTTAAA TCAAACGCTG ATTACAGATA ATAGTATTTA  4140
TATAAATAAT TGAAAAAAAT TTTCTTTTGG GAAGAGGGAG AAAATGAAAT AAATATCATT  4200
AAAGATAACT CAGGAGAATC TTCTTTACAA TTTTACGTTT AGAATGTTTA AGGTTAAGAA  4260
AGAAATAGTC AATATGCTTG TATAAAACAC TGTTCACTGT TTTTTTTAAA AAAAAAACTT  4320
GATTTGTTAT TAACATTGAT CTGCTGACAA AACCTGGGAA TTTGGGTTGT GTATGCGAAT  4380
GTTTCAGTGC CTCAGACAAA TGTGTATTTA ACTTATGTAA AAGATAAGTC TGGAAATAAA  4440
TGTCTGTTTA TTTTTGTACT ATTTA
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Seq ID No: 133 <u>Protein sequence:</u>
Protein Accession #: NP_000954.1

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1          11         21         31         41         51
|          |          |          |          |          |
MLARALLLCA VLALSHTANP CCSHPCQNRG VCMSVGFDQY KCDCTRTGFY GENCSTPEFL    60
TRIKLFLKPT PNTVHYILTH FKGFWNVVNN IPFLRNAIMS YVLTSRSHLI DSPPTYNADY   120
GYKSWEAFSN LSYYTRALPP VPDDCPTPLG VKGKKQLPDS NEIVEKLLLR RKFIPDPQGS   180
NMMFAFFAQH FTHQFFKTDH KRGPAFTNGL GHGVDLNHIY GETLARQRKL RLFKDGKMKY   240
QIIDGEMYPP TVKDTQAEMI YPPQVPEHLR FAVGQEVFGL VPGLMMYATI WLREHNRVCD   300
VLKQEHPEWG DEQLFQTSRL ILIGETIKIV IEDYVQHLSG YHFKLKFDPE LLFNKQFQYQ   360
NRIAAEFNTL YHWHPLLPDT FQIHDQKYNY QQFIYNNSIL LEHGITQFVE SFTRQIAGRV   420
AGGRNVPPAV QKVSQASIDQ SRQMKYQSFN EYRKRFMLKP YESFEELTGE KEMSAELEAL   480
YGDIDAVELY PALLVEKPRP DAIFGETMVE VGAPFSLKGL MGNVICSPAY WKPSTFGGEV   540
GFQIINTASI QSLICNNVKG CPFTSFSVPD PELIKTVTIN ASSSRSGLDD INPTVLLKER   600
STEL
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Seq ID NO: 134 <u>DNA sequence</u>
Nucleic Acid Accession #: XM_059648.1
Coding sequence: 35-664 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
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AGGCTGCTGA GACTTCCCTC TAGAATCCTC CAACATGGAG CCTCTTGCAG CTTACCCGCT    60
AAAATGTTCC GGGCCCAGAG CAAAGGTATT TGCAGTTTTG CTGTCTATAG TTCTATGCAC   120
AGTAACGCTA TTTCTTCTAC AACTAAAATT CCTCAAACCT AAAATCAACA GCTTTTATGC   180
CTTTGAAGTG AAGGATGCAA AAGGAAGAAC TGTTTCTCTG GAAAAGTATA AAGGCAAAGT   240
TTCACTAGTT GTAAACGTGG CCAGTGACTG CCAACTCACA GACAGAAATT ACTTAGGGCT   300
GAAGGAACTG CACAAAGAGT TTGGACCATC CCACTTCAGC GTGTTGGCTT TTCCCTGCAA   360
TCAGTTTGGA GAATCGGAGC CCCGCCCAAG CAAGGAAGTA GAATCTTTTG CAAGAAAAAA   420
CTACGGAGTA ACTTTCCCCA TCTTCCACAA GATTAAGATT CTAGGATCTG AAGGAGAACC   480
TGCATTTAGA TTTCTTGTTG ATTCTTCAAA GAAGGAACCA AGGTGGAATT TTTGGAAGTA   540
TCTTGTCAAC CCTGAGGGTC AAGTTGTGAA GTTCTGGAAG CCAGAGGAGC CCATTGAAGT   600
CATCAGGCCT GACATAGCAG CTCTGGTTAG ACAAGTGATC ATAAAAAAGA AAGAGGATCT   660
ATGAGAATGC CATTGCGTTT CTAATAGAAC AGAGAAATGT CTCCATGAGG GTTTGGTCTC   720
ATTTTAAACA TTTTTTTTTT GGAGACAGTG TCTCACTCTG TCACCCAGGC TGGAGTGCAG   780
TAGTGCGTTC TCAGCTCATT GCAACCTCTG CCTTTTTAAA CATGCTATTA AATGTGGCAA   840
TGAAGGATTT TTTTTTAATG TTATCTTGCT ATTAAGTGGT AATGAATGTT CCCAGGATGA   900
GGATGTTACC CAAAGCAAAA ATCAAGAGTA GCCAAAGAAT CAACATGAAA TATATTAACT   960
ACTTCCTCTG ACCATACTAA AGAATTCAGA ATACACAGTG ACCAATGTGC CTCAATATCT  1020
TATTGTTCAA CTTGACATTT TCTAGGACTG TACTTGATGA AAATGCCAAC ACACTAGACC  1080
ACTCTTTGGA TTCAAGAGCA CTGTGTATGA CTGAAATTTC TGGAATAACT GTAAATGGTT  1140
ATGTTAATGG AATAAAACAC AAATGTTGAA AAATGTAAAA TATATATACA TAGATTCAAA  1200
TCCTTATATA TGTATGCTTG TTTTGTGTAC AGGATTTTGT TTTTTCTTTT TAAGTACAGG  1260
TTCCTAGTGT TTTACTATAA CTGTCACTAT GTATGTAACT GACATATATA AATAGTCATT  1320
TATAAATGAC CGTATTATAA CA
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Seq ID No: 135 Protein sequence:
Protein Accession #: XP_059648.1

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1          11         21         31         41         51
|          |          |          |          |          |
MEPLAAYPLK CSGPRAKVFA VLLSIVLCTV TLFLLQLKFL KPKINSFYAF EVKDAKGRTV    60
SLEKYKGKVS LVVNVASDCQ LTDRNYLGLK ELHKEFGPSH FSVLAFPCNQ FGESEPRPSK   120
EVESFARKNY GVTFPIFHKI KILGSEGEPA FRFLVDSSKK EPRWNFWKYL VNPEGQVVKF   180
WKPEEPIEVI RPDIAALVRQ VIIKKKEDL
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Seq ID NO: 136 DNA sequence
Nucleic Acid Accession #: NM_003003.1
Coding sequence: 304-2451(underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
CAAGTGCCGT CGCCGCGCCC CTTCCCCCTC CCGCCTCCCC GGCCCCCTCC CCGGAACCGG    60
CGGTCGAGCT ACGGTCGCGG ACGAGTGGAA CCGAGACTGC CCCGCGGAGC CGCCGGTATG   120
AGCGCCCCTC GCCACCCCGT GTCCCAGGCC CGGCCTTTCT GACAAGAGCT AGACTTCGGG   180
CTCCTTGAGG ATATTCAGTT TTGTATGTTT GAATATCCTC TCACCATGTT CAGCATAAAG   240
TACCATTCTT AATGATTATC CTCAACAAGA CAGGTGTGAG AGGGTTGCTG TTGCATTGCA   300
ATCATGGTGC AAAAATACCA GTCCCCAGTG AGAGTGTACA AATACCCCTT TGAATTAATT   360
ATGGCTGCCT ATGAAAGGAG GTTCCCTACA TGTCCTTTGA TTCCGATGTT CGTGGGCAGT   420
GACACTGTGA GTGAATTCAA GAGCGAAGAT GGGGCTATTC ATGTCATTGA AAGGCGCTGC   480
AAGCTGGATG TAGATGCACC CAGACTGCTG AAGAAGATTG CAGGAGTTGA TTATGTTTAT   540
TTTGTCCAGA AAAACTCACT GAATTCTCGG GAACGTACTT TGCACATTGA GGCTTATAAT   600
GAAACGTTTT CCAATCGGGT CATCATTAAT GAGCATTGCT GCTACACCGT TCACCCTGAA   660
AATGAAGATT GGACCTGTTT TGAACAGTCT GCAAGTTTAG ATATTAAATC TTTCTTTGGT   720
TTTGAAAGTA CAGTGGAAAA AATTGCAATG AAACAATATA CCAGCAACAT TAAAAAAGGA   780
AAGGAAATCA TCGAATACTA CCTTCGCCAA TTAGAAGAAG AAGGCATAAC CTTTGTGCCC   840
CGTTGGAGTC CGCCTTCCAT CACGCCCTCT TCAGAGACAT CTTCATCATC CTCCAAGAAA   900
CAAGCAGCGT CCATGGCCGT CGTCATCCCA GAAGCTGCCC TCAAGGAGGG GCTGAGTGGT   960
GATGCCCTCA GCAGCCCCAG TGCACCTGAG CCCGTGGTGG GCACCCCTGA CGACAAACTA  1020
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ATTAGACTTC GCCAGTGGCT CCAGGAGACC CACAAGGGCA AAATTCCAAA AGATGAGCAT  1140
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CAGTCTTTGA CGTGGAGAAA GCAGCATCAG GTAGACTACA TTCTTGAAAC CTGGACCCCT  1260
CCTCAGGTCC TTCAGGATTA CTACGCGGGA GGCTGGCATC ATCACGACAA AGATGGGCGG  1320
CCCCTCTACG TGCTCAGGCT GGGGCAGATG GACACCAAAG GCTTGGTGAG AGCGCTCGGG  1380
GAGGAAGCCC TGCTGAGATA CGTTCTCTCC GTAAATGAAG AACGGCTAAG GCGATGCGAA  1440
GAGAATACAA AAGTCTTTGG TCGGCCTATC AGCTCATGGA CCTGCCTGGT GGACTTGGAA  1500
GGGCTGAACA TGCGCCACTT GTGGAGACCT GGTGTGAAAG CGCTGCTGCG GATCATCGAG  1560
GTGGTGGAGG CCAACTACCC TGAGACACTG GGCCGCCTTC TCATCCTGCG GGCGCCCAGG  1620
GTATTTCCTG TGCTCTGGAC GCTGGTTAGT CCGTTCATTG ATGACAACAC CAGAAGGAAG  1680
TTCCTCATTT ATGCAGGAAA TGACTACCAG GGTCCTGGAG GCCTGCTGGA TTACATCGAC  1740
AAAGAGATTA TTCCAGATTT CCTGAGTGGG GAGTGCATGT GCGAAGTGCC AGAGGGTGGA  1800
CTGGTCCCCA AATCTCTGTA CCGGACTGCA GAGGAGCTGG AGAACGAAGA CCTGAAGCTC  1860
TGGACTGAGA CCATCTACCA GTCTGCAAGC GTCTTCAAAG GAGCCCCACA TGAGATTCTC  1920
ATTCAGATTG TGGATGCCTC GTCAGTCATC ACTTGGGATT TCGACGTGTG CAAAGGGGAC  1980
ATTGTGTTTA ACATCTATCA CTCCAAGAGG TCGCCACAAC CACCCAAAAA GGACTCCCTG  2040
GGAGCCCACA GCATCACCTC TCCGGGTGGG AACAATGTGC AGCTCATAGA CAAAGTCTGG  2100
CAGCTGGGCC GCGACTACAG CATGGTGGAG TCGCCTCTGA TCTGCAAAGA AGGAGAAAGC  2160
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CAGGTCTCTT CGCACAAGTG TAAAGTGATG TACTACACCG AGGTGATCGG CTCGGAGGAT  2340
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GCCTGCACCT AGTGTGCAGA GGGGACGGCC GCCCCTCCTC GGACAGCAGC TGCACCCGCC  2520
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GGTAAACGTA GTCGTTTGAT CCCAAAACTA CCTTGGCAGG TAGTTTTAAC TCTGATCCTA  2640
ACTTAACTCA ATAGCCATAG ATTTTGTATA CGTTGTGCAC AAAATCCAAC CAGAGCGCAA  2700
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GACATCCTCC AGAGATGGCC CCTCCTCACC TGGGACGGAA GCTGCCAGCT CGCTTCCCCC  2880
AAGCTGCCTC ATGGCCCGCA CGCCGCCTCA CGGCCCCCAT GCTTCCCGCC AGTCAAGATG  2940
GTCTGTGGAC TTAGGGCCAG CCCTTGAGGT CCTTATCCTC TGAGGATTCA GAGGTTGCCT  3000
GCGGAGTACC TTGTCCCAGG GCCAGACACA CCCACACCAC CCACTGTCTG CAGTGGGGCC  3060
GGGGGCTCAG GAGGGGCTCT CAGGGACTCC TGGTGACTCC AGGAAAATGC TGCCATCGTT  3120
AAACATTACT TTCTCTTTCC TCCTTTTCAA ATCTTTTTGA TACTTTTTAG AGCAGGATTT  3180
TTCTGTATGT GAACTTGGGT GGGGGGGTTC TTCCCGTTTC CTTCCGTGCG TCGCCCCTCT  3240
CACCTGCAGT CAGCTCCCAG CCCAGTGTAG GCCATCTCCT CTGTGCCCTC TGGAGGCTCA  3300
TTGTCTCAGA GCCCAGACAG TTCCAGCCAC TAGGAGGCCG TCTTGGAACC AGCAAGTCGC  3360
ATTTGCCACT TGACACTGTC CATGGGGTTT TATTAGTAGC TAAGCAGCAG CTCTCGCATC  3420
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CACTTCAGGG TGGCGTGTGG CATGTAGGAG TCCTGCTTCT TTGTACATGG GAATTGTGGA  3480
CTCATGCGTG TGTGTGTGTG CATGTGCTGT GTGTGTGCAT GTGTGCATGA CGGTGGGGGT  3540
GCTGGGGGGA CGGGGTGAGT GGAAACTTAG TTTGAGTAAT GAAGGAATCT TCACAGAAGC  3600
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AGAATCTGTC CAGAAGTTGC ATAGGGGATG GCCTCCACGA TAAGGACATG CAACACGTGT  3780
TTCTGTGTGC AGCAGAGGCC GTGTTTTTCA TGCCAAACCC CACGCGGCTG TCAACTGTGT  3840
GCGTGGTAGG CATGGAGATC CTGGTTGTGC CGTCTCAGCT CCGCTCTGAA GGCACTGTGT  3900
GGGTGCTGCG TGACTGGAGA GCTGTGTGGA GGCCATGTGT GCCCCGTGCA GGGATCAGGA  3960
GGGCGGGGGA GGGACCGAGC AGCCCTCTTG CCCGGTCGGG TCAGCCCTAG TGGCTGCCTG  4020
CACACTGTAG ACGTCCCAGG GCCTGTGCTG TGATCACCTG CCTTTGGACC ACATTTGTGT  4080
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GTTAGTAGGT AGGGCTAGTA GGTAGGGCTA GTAGGTAGGG TTAGTAGGTA GGGTTCGTAG  4620
GTAGGGCTGG TAGGTAGGGT TAGTAGGTAG GGCTAGTAGG TAGGGCTAGT AGGTAGGGCT  4680
AGTAGGTAGG GCTAGTAGGT AGGGCTAGTA GGTAGGGCTA GTAGGTAGGG CTAGTAGGTA  4740
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TGCTTCCACC TGGTGCTTCC TGTTCCCAAA TCACAAGGGC CTGAAGGTGG TCCCTGCTTT  4860
CTCTTTCTCT TTCTCTGTGT CTCAGATGGC GATTTTGCTG ACAGCTGCCA AGAAAATGCT  4920
TCACTCAACA GTCCTCATGT GCCCAGAGAT GTTTATAGAA CTGTTTGAAT TGCAGCCATC  4980
CCCTGCCCCC TCCCAGGCTG AAGATCTGTT CTTTTTAAGT TGATTCGGGA GTGGCATTCT  5040
TTTATACCCA AAGACTGTAG TGCATCTTGA AGAGCTCAAA GCACATGACC GCACAAATGC  5100
TTACAGGGTT TCCTCCCGAG TAATCCAATC TCACTCCCCT TGTAAGGGAA TTCTGGGGCA  5160
GCTATGGTTT GAGTATGCAG TTTGCATCGT GTTTCTACCT TTAGTACCTT GCCACTCTTT  5220
TAAAACGCTG CTGTCATTTC CCATTTCTTA GTACTAATGA TTCTTTGATT CTCCCTCTAT  5280
TATGTCTTAA TTCACTTTCC TTCCTAAATT TGTTATTTGC ATATCAAATT CTGTAAATGT  5340
TTTGTAAACA TATTACCTCA CTTGGTAATA CAATACTGAT AGTCTTTAAA AGATTTTTTT  5400
ATTGTTATCA ATAATAAATG TGAACTATTT AAAG
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Seq ID No: 137 Protein sequence:
Protein Accession #: NP_002994.1

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1          11         21         31         41         51
|          |          |          |          |          |
MVQKYQSPVR VYKYPFELIM AAYERRFPTC PLIPMFVGSD TVSEFKSEDG AIHVIERRCK    60
LDVDAPRLLK KIAGVDYVYF VQKNSLNSRE RTLHIEAYNE TFSNRVIINE HCCYTVHPEN   120
EDWTCFEQSA SLDIKSFFGF ESTVEKIAMK QYTSNIKKGK EIIEYYLRQL EEEGITFVPR   180
WSPPSITPSS ETSSSSSKKQ AASMAVVIPE AALKEGLSGD ALSSPSAPEP VVGTPDDKLD   240
ADHIKRYLGD LTPLQESCLI RLRQWLQETH KGKIPKDEHI LRFLRARDFN IDKAREIMCQ   300
SLTWRKQHQV DYILETWTPP QVLQDYYAGG WHHHDKDGRP LYVLRLGQMD TKGLVRALGE   360
EALLRYVLSV NEERLRRCEE NTKVFGRPIS SWTCLVDLEG LNMRHLWRPG VKALLRIIEV   420
VEANYPETLG RLLILRAPRV FPVLWTLVSP FIDDNTRRKF LIYAGNDYQG PGGLLDYIDK   480
EIIPDFLSGE CMCEVPEGGL VPKSLYRTAE ELENEDLKLW TETIYQSASV FKGAPHEILI   540
QIVDASSVIT WDFDVCKGDI VFNIYHSKRS PQPPKKDSLG AHSITSPGGN NVQLIDKVWQ   600
LGRDYSMVES PLICKEGESV QGSHVTRWPG FYILQWKFHS MPACAASSLP RVDDVLASLQ   660
VSSHKCKVMY YTEVIGSEDF RGSMTSLESS HSGFSQLSAA TTSSSQSHSS SMISR
```

Seq ID NO: 138 DNA sequence
Nucleic Acid Accession #: NM_004181.1
Coding sequence: 32-670 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
GCAGAAATAG CCTAGGGAGA TCAACCCCGA GATGCTGAAC AAAGTGCTGT CCCGGCTGGG    60
GGTCGCCGGC CAGTGGCGCT TCGTGGACGT GCTGGGGCTG GAAGAGGAGT CTCTGGGCTC   120
GGTGCCAGCG CCTGCCTGCG CGCTGCTGCT GCTGTTTCCC CTCACGGCCC AGCATGAGAA   180
CTTCAGGAAA AAGCAGATTG AAGAGCTGAA GGGACAAGAA GTTAGTCCTA AAGTGTACTT   240
CATGAAGCAG ACCATTGGGA ATTCCTGTGG CACAATCGGA CTTATTCACG CAGTGGCCAA   300
TAATCAAGAC AAACTGGGAT TTGAGGATGG ATCAGTTCTG AAACAGTTTC TTTCTGAAAC   360
AGAGAAAATG TCCCCTGAAG ACAGAGCAAA ATGCTTTGAA AAGAATGAGG CCATACAGGC   420
AGCCCATGAT GCCGTGGCAC AGGAAGGCCA ATGTCGGGTA GATGACAAGG TGAATTTCCA   480
TTTTATTCTG TTTAACAACG TGGATGGCCA CCTCTATGAA CTTGATGGAC GAATGCCTTT   540
TCCGGTGAAC CATGGCGCCA GTTCAGAGGA CACCCTGCTG AAGGACGCTG CCAAGGTGTG   600
CAGAGAATTC ACCGAGCGTG AGCAAGGAGA AGTCCGCTTC TCTGCCGTGG CTCTCTGCAA   660
GGCAGCCTAA TGCTCTGTGG GAGGGACTTT GCTGATTTCC CCTCTTCCCT TCAACATGAA   720
AATATATACC CCCCATGCAG TCTAAAATGC TTCAGTACTT GTGAAACACA GCTGTTCTTC   780
TGTTCTGCAG ACACGCCTTC CCCTCAGCCA CACCCAGGCA CTTAAGCACA AGCAGAGTGC   840
ACAGCTGTCC ACTGGGCCAT TGTGGTGTGA GCTTCAGATG GTGAAGCATT CTCCCCAGTG   900
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TATGTCTTGT ATCCGATATC TAACGCTTTA AATGGCTACT TTGGTTTCTG TCTGTAAGTT   960
AAGACCTTGG ATGTGGTTAT GTTGTCCTAA AGAATAAATT TTGCTGATAG TAGC
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Seq ID No: 139 Protein sequence:
Protein Accession #: NP_004172.1

```
1          11         21         31         41         51
|          |          |          |          |          |
MLNKVLSRLG VAGQWRFVDV LGLEEESLGS VPAPACALLL LFPLTAQHEN FRKKQIEELK    60
GQEVSPKVYF MKQTIGNSCG TIGLIHAVAN NQDKLGFEDG SVLKQFLSET EKMSPEDRAK   120
CFEKNEAIQA AHDAVAQEGQ CRVDDKVNFH FILFNNVDGH LYELDGRMPF PVNHGASSED   180
TLLKDAAKVC REFTEREQGE VRFSAVALCK AA
```

Seq ID NO: 140 DNA sequence
Nucleic Acid Accession #: NM_000201.1
Coding sequence: 58-1656 (underlined sequences correspond to start and stop codons)

```
1          11         21         31         41         51
|          |          |          |          |          |
GCGCCCCAGT CGACGCTGAG CTCCTCTGCT ACTCAGAGTT GCAACCTCAG CCTCGCTATG    60
GCTCCCAGCA GCCCCCGGCC CGCGCTGCCC GCACTCCTGG TCCTGCTCGG GGCTCTGTTC   120
CCAGGACCTG GCAATGCCCA GACATCTGTG TCCCCCTCAA AAGTCATCCT GCCCCGGGGA   180
GGCTCCGTGC TGGTGACATG CAGCACCTCC TGTGACCAGC CCAAGTTGTT GGGCATAGAG   240
ACCCCGTTGC CTAAAAAGGA GTTGCTCCTG CCTGGGAACA ACCGGAAGGT GTATGAACTG   300
AGCAATGTGC AAGAAGATAG CCAACCAATG TGCTATTCAA ACTGCCCTGA TGGGCAGTCA   360
ACAGCTAAAA CCTTCCTCAC CGTGTACTGG ACTCCAGAAC GGGTGGAACT GGCACCCCTC   420
CCCTCTTGGC AGCCAGTGGG CAAGAACCTT ACCCTACGCT GCCAGGTGGA GGGTGGGGCA   480
CCCCGGGCCA ACCTCACCGT GGTGCTGCTC CGTGGGGAGA AGGAGCTGAA ACGGGAGCCA   540
GCTGTGGGGG AGCCCGCTGA GGTCACGACC ACGGTGCTGG TGAGGAGAGA TCACCATGGA   600
GCCAATTTCT CGTGCCGCAC TGAACTGGAC CTGCGGCCCC AAGGGCTGGA GCTGTTTGAG   660
AACACCTCGG CCCCCTACCA GCTCCAGACC TTTGTCCTGC CAGCGACTCC CCCACAACTT   720
GTCAGCCCCC GGGTCCTAGA GGTGGACACG CAGGGGACCG TGGTCTGTTC CCTGGACGGG   780
CTGTTCCCAG TCTCGGAGGC CCAGGTCCAC CTGGCACTGG GGGACCAGAG GTTGAACCCC   840
ACAGTCACCT ATGGCAACGA CTCCTTCTCG GCCAAGGCCT CAGTCAGTGT GACCGCAGAG   900
GACGAGGGCA CCCAGCGGCT GACGTGTGCA GTAATACTGG GGAACCAGAG CCAGGAGACA   960
CTGCAGACAG TGACCATCTA CAGCTTTCCG GCGCCCAACG TGATTCTGAC GAAGCCAGAG  1020
GTCTCAGAAG GGACCGAGGT GACAGTGAAG TGTGAGGCCC ACCCTAGAGC CAAGGTGACG  1080
CTGAATGGGG TTCCAGCCCA GCCACTGGGC CCGAGGGCCC AGCTCCTGCT GAAGGCCACC  1140
CCAGAGGACA ACGGGCGCAG CTTCTCCTGC TCTGCAACCC TGGAGGTGGC CGGCCAGCTT  1200
ATACACAAGA ACCAGACCCG GGAGCTTCGT GTCCTGTATG GCCCCCGACT GGACGAGAGG  1260
GATTGTCCGG GAAACTGGAC GTGGCCAGAA AATTCCCAGC AGACTCCAAT GTGCCAGGCT  1320
TGGGGGAACC CATTGCCCGA GCTCAAGTGT CTAAAGGATG GCACTTTCCC ACTGCCCATC  1380
GGGGAATCAG TGACTGTCAC TCGAGATCTT GAGGGCACCT ACCTCTGTCG GGCCAGGAGC  1440
ACTCAAGGGG AGGTCACCCG CGAGGTGACC GTGAATGTGC TCTCCCCCCG GTATGAGATT  1500
GTCATCATCA CTGTGGTAGC AGCCGCAGTC ATAATGGGCA CTGCAGGCCT CAGCACGTAC  1560
CTCTATAACC GCCAGCGGAA GATCAAGAAA TACAGACTAC AACAGGCCCA AAAAGGGACC  1620
CCCATGAAAC CGAACACACA AGCCACGCCT CCCTGAACCT ATCCCGGGAC AGGGCCTCTT  1680
CCTCGGCCTT CCCATATTGG TGGCAGTGGT GCCACACTGA ACAGAGTGGA AGACATATGC  1740
CATGCAGCTA CACCTACCGG CCCTGGGACG CCGGAGGACA GGGCATTGTC CTCAGTCAGA  1800
TACAACAGCA TTTGGGGCCA TGGTACCTGC ACACCTAAAA CACTAGGCCA CGCATCTGAT  1860
CTGTAGTCAC ATGACTAAGC CAAGAGGAAG GAGCAAGACT CAAGACATGA TTGATGGATG  1920
TTAAAGTCTA GCCTGATGAG AGGGGAAGTG GTGGGGGAGA CATAGCCCCA CCATGAGGAC  1980
ATACAACTGG GAAATACTGA AACTTGCTGC CTATTGGGTA TGCTGAGGCC CACAGACTTA  2040
CAGAAGAAGT GGCCCTCCAT AGACATGTGT AGCATCAAAA CACAAAGGCC CACACTTCCT  2100
GACGGATGCC AGCTTGGGCA CTGCTGTCTA CTGACCCCAA CCCTTGATGA TATGTATTTA  2160
TTCATTTGTT ATTTTACCAG CTATTTATTG AGTGTCTTTT ATGTAGGCTA AATGAACATA  2220
GGTCTCTGGC CTCACGGAGC TCCCAGTCCA TGTCACATTC AAGGTCACCA GGTACAGTTG  2280
TACAGGTTGT ACACTGCAGG AGAGTGCCTG GCAAAAAGAT CAAATGGGGC TGGGACTTCT  2340
CATTGGCCAA CCTGCCTTTC CCCAGAAGGA GTGATTTTTC TATCGGCACA AAAGCACTAT  2400
ATGGACTGGT AATGGTTCAC AGGTTCAGAG ATTACCCAGT GAGGCCTTAT TCCTCCCTTC  2460
CCCCCAAAAC TGACACCTTT GTTAGCCACC TCCCCACCCA CATACATTTC TGCCAGTGTT  2520
CACAATGACA CTCAGCGGTC ATGTCTGGAC ATGAGTGCCC AGGGAATATG CCCAAGCTAT  2580
GCCTTGTCCT CTTGTCCTGT TTGCATTTCA CTGGGAGCTT GCACTATTGC AGCTCCAGTT  2640
TCCTGCAGTG ATCAGGGTCC TGCAAGCAGT GGGGAAGGGG GCCAAGGTAT TGGAGGACTC  2700
CCTCCCAGCT TTGGAAGGGT CATCCGCGTG TGTGTGTGTG TGTATGTGTA GACAAGCTCT  2760
CGCTCTGTCA CCCAGGCTGG AGTGCAGTGG TGCAATCATG GTTCACTGCA GTCTTGACCT  2820
TTTGGGCTCA AGTGATCCTC CCACCTCAGC CTCCTGAGTA GCTGGGACCA TAGGCTCACA  2880
ACACCACACC TGGCAAATTT GATTTTTTTT TTTTTTTTCA GAGACGGGGT CTCGCAACAT  2940
TGCCCAGACT TCCTTTGTGT TAGTTAATAA AGCTTTCTCA ACTGCC
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Seq ID No: 141 Protein sequence:
Protein Accession #: NP_000192.1

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1          11         21         31         41         51
|          |          |          |          |          |
MLQFVRAGAR AWLRPTGSQG LSSLAEEAAR ATENPEQVAS EGLPEPVLRK VELPVPTHRR    60
PVQAWVESLR GFEQERVGLA DLHPDVFATA PRLDILHQVA MWQKNFKRIS YAKTKTRAEV   120
RGGGGKPLAA ERHWAGPAWQ HPLSALARRR CCPWPPGPTS YYYMLPMKVR ALGLKVALTV   180
KLAQDDLHIM DSLELPTGDP QYLTELAHYR RWGDSVLLVD LTHEEMPQSI VEATSRLKTF   240
NLIPAVGLNV HSMLKHQTLV LTLPTVAFLE DKLLWQDSRY RPLYPFSLPY SDFPRPLPHA   300
TQGPAATPYH C
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Seq ID NO: 142 DNA sequence
Nucleic Acid Accession #: NM_000270.1
Coding sequence: 110-979(underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
AACTGTGCGA ACCAGACCCG GCAGCCTTGC TCAGTTCAGC ATAGCGGAGC GGATCCGATC    60
GGATCGGAGC ACACCGGAGC AGGCTCATCG AGAAGGCGTC TGCGAGACCA TGGAGAACGG   120
ATACACCTAT GAAGATTATA AGAACACTGC AGAATGGCTT CTGTCTCATA CTAAGCACCG   180
ACCTCAAGTT GCAATAATCT GTGGTTCTGG ATTAGGAGGT CTGACTGATA AATTAACTCA   240
GGCCCAGATC TTTGACTACA GTGAAATCCC CAACTTTCCT CGAAGTACAG TGCCAGGTCA   300
TGCTGGCCGA CTGGTGTTTG GGTTCCTGAA TGGCAGGGCC TGTGTGATGA TGCAGGGCAG   360
GTTCCACATG TATGAAGGGT ACCCACTCTG GAAGGTGACA TTCCCAGTGA GGGTTTTCCA   420
CCTTCTGGGT GTGGACACCC TGGTAGTCAC CAATGCAGCA GGAGGGCTGA ACCCCAAGTT   480
TGAGGTTGGA GATATCATGC TGATCCGTGA CCATATCAAC CTACCTGGTT TCAGTGGTCA   540
GAACCCTCTC AGAGGGCCCA ATGATGAAAG GTTTGGAGAT CGTTTCCCTG CCATGTCTGA   600
TGCCTACGAC CGGACTATGA GGCAGAGGGC TCTCAGTACC TGGAAACAAA TGGGGGAGCA   660
ACGTGAGCTA CAGGAAGGCA CCTATGTGAT GGTGGCAGGC CCCAGCTTTG AGACTGTGGC   720
AGAATGTCGT GTGCTGCAGA AGCTGGGAGC AGACGCTGTT GGCATGAGTA CAGTACCAGA   780
AGTTATCGTT GCACGGCACT GTGGACTTCG AGTCTTTGGC TTCTCACTCA TCACTAACAA   840
GGTCATCATG GATTATGAAA GCCTGGAGAA GGCCAACCAT GAAGAAGTCT TAGCAGCTGG   900
CAAACAAGCT GCACAGAAAT TGGAACAGTT TGTCTCCATT CTTATGGCCA GCATTCCACT   960
CCCTGACAAA GCCAGTTGAC CTGCCTTGGA GTCGTCTGGC ATCTCCCACA CAAGACCCAA  1020
GTAGCTGCTA CCTTCTTTGG CCCCTTGCTG GAGTCATGTG CCTCTGTCCT TAGGTTGTAG  1080
CAGAAAGGAA AAGATTCCTG TCCTTCACCT TTCCCACTTT CTTCTACCAG ACCCTTCTGG  1140
TGCCAGATCC TCTTCTCAAA GCTGGGATTA CAGGTGTGAG CATAGTGAGA CCTTGGCGCT  1200
ACAAAATAAA GCTGTTCTCA TTCCTGTTCT TTCTTACACA AGAGCTGGAG CCCGTGCCCT  1260
ACCACACATC TGTGGAGATG CCCAGGATTT GACTCGGGCC TTAGAACTTT GCATAGCAGC  1320
TGCTACTAGC TCTTTGAGAT AATACATTCC GAGGGGCTCA GTTCTGCCTT ATCTAAATCA  1380
CCAGAGACCA AACAAGGACT AATCCAATAC CTCTTGGA
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Seq ID No: 143 Protein sequence:
Protein Accession #: NP_000261.1

```
1          11         21         31         41         51
|          |          |          |          |          |
MENGYTYEDY KNTAEWLLSH TKHRPQVAII CGSGLGGLTD KLTQAQIFDY SEIPNFPRST    60
VPGHAGRLVF GFLNGRACVM MQGRFHMYEG YPLWKVTFPV RVFHLLGVDT LVVTNAAGGL   120
NPKFEVGDIM LIRDHINLPG FSGQNPLRGP NDERFGDRFP AMSDAYDRTM RQRALSTWKQ   180
MGEQRELQEG TYVMVAGPSF ETVAECRVLQ KLGADAVGMS TVPEVIVARH CGLRVFGFSL   240
ITNKVIMDYE SLEKANHEEV LAAGKQAAQK LEQFVSILMA SIPLPDKAS
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Seq ID NO: 144 DNA sequence
Nucleic Acid Accession #: NM_015577.1
Coding sequence: 112-3054 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
GAAGCGGCGG GCGGGGTGGA GCAGCCAGCT GGGTCCGGGG AGCGCCGCCG CCGCCTCGAT    60
GGGGTGTTGA AAAGTCTCCT CTAGAGCTTT GGAAGGCTGA ATGCACTAAA CATGAAGAGC   120
TTGAAAGCGA AGTTCAGGAA GAGTGACACC AATGAGTGGA ACAAGAATGA TGACCGGCTA   180
CTGCAGGCCG TGGAGAATGG AGATGCGGAG AAGGTGGCCT CACTGCTCGG CAAGAAGGGG   240
GCCAGTGCCA CCAAACACGA CAGTGAGGGC AAGACCGCTT TCCATCTTGC TGCTGCAAAA   300
GGACACGTGG AATGCCTCAG GGTCATGATT ACACATGGTG TGGATGTGAC AGCCCAAGAT   360
ACTACCGGAC ACAGCGCCTT ACATCTCGCA GCCAAGAACA GCCACCATGA ATGCATCAGG   420
AGGCTGCTTC AGTCTAAATG CCCAGCCGAA AGTGTCGACA GCTCTGGGAA AACAGCTTTA   480
CATTATGCAG CGGCTCAGGG CTGCCTTCAA GCTGTGCAGA TTCTCTGCGA ACACAAGAGC   540
CCCATAAACC TCAAAGATTT GGATGGGAAT ATACCGCTGC TTCTTGCTGT ACAAAATGGT   600
CACAGTGAGA TCTGTCACTT TCTCCTGGAT CATGGAGCAG ATGTCAATTC CAGGAACAAA   660
AGTGGAAGAA CTGCTCTCAT GCTGGCCTGT GAGATTGGCA GCTCTAACGC TGTGGAAGCC   720
TTAATTAAAA AGGGTGCAGA CCTAAACCTT GTAGATTCTC TTGGATACAA TGCCTTACAT   780
TATTCCAAAC TCTCAGAAAA TGCAGGAATT CAAAGCCTTC TATTATCAAA AATCTCTCAG   840
GATGCTGATT TAAAGACCCC AACAAAACCA AAGCAGCATG ACCAAGTCTC TAAAATAAGC   900
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TCAGAAAGAA GTGGAACTCC AAAAACACGC AAAGCTCCAC CACCTCCTAT CAGTCCTACC   960
CAGTTGAGTG ATGTCTCTTC CCCAAGATCA ATAACTTCGA CTCCACTATC GGGAAAGGAA  1020
TCGGTATTTT TTGCTGAACC ACCCTTCAAG GCTGAGATCA GTTCTATACG AGAAAACAAA  1080
GACAGACTAA GTGACAGTAC TACAGGTGCT GATAGCTTAT TGGATATAAG TTCTGAAGCT  1140
GACCAACAAG ATCTTCTCTC TCTATTGCAA GCAAAAGTTG CTTCCCTTAC CTTACACAAT  1200
AAGGAGTTAC AAGATAAATT ACAGGCCAAA TCACCCAAGG AGGCGGAAGC AGACCTAAGC  1260
TTTGACTCAT ACCATTCCAC CCAAACTGAC TTGGGCCCAT CCCTGGGAAA ACCTGGTGAA  1320
ACCTCTCCCC CAGACTCCAA ATCATCTCCA TCTGTCTTAA TACATTCTTT AGGTAAATCC  1380
ACTACTGACA ATGATGTCAG AATTCAGCAA CTGCAAGAGA TTTTGCAAGA TCTACAGAAG  1440
AGATTAGAGA GCTCTGAAGC AGAGAGAAAA CAGCTACAGG TCGAACTCCA ATCCCGAAGG  1500
GCAGAACTGG TATGCTTAAA CAACACTGAG ATTTCAGAGA ACAGCTCTGA CCTCAGCCAG  1560
AAACTTAAAG AAACTCAGAG CAAATACGAG GAGGCTATGA AAGAAGTCCT TAGTGTGCAG  1620
AAGCAGATGA AACTCGGTCT TGTCTCACCT GAAAGCATGG ATAATTATTC ACATTTCCAC  1680
GAGCTGAGGG TCACGGAAGA GGAAATAAAT GTGCTAAAGC AGGATCTGCA GAATGCATTA  1740
GAAGAAAGTG AAAGAAATAA AGAGAAAGTG AGAGAGTTAG AGGAAAAACT GGTAGAGAGG  1800
GAGAAAGGTA CAGTGATTAA GCCACCTGTG GAAGAGTACG AGGAAATGAA AAGTTCATAT  1860
TGCTCTGTTA TTGAGAATAT GAATAAGGAG AAAGCATTTT TGTTTGAGAA ATACCAAGAA  1920
GCCCAAGAAG AAATCATGAA ATTAAAAGAC ACACTAAAAA GTCAGATGAC ACAGGAAGCC  1980
AGTGATGAAG CTGAGGACAT GAAAGAAGCC ATGAATAGGA TGATAGATGA ACTCAATAAA  2040
CAGGTGAGCG AGCTGTCACA GCTGTACAAA GAAGCCCAGG CTGAGCTGGA GGATTACAGG  2100
AAGAGGAAAT CTCTAGAGGA TGTCACAGCT GAATATATCC ATAAAGCAGA GCATGAGAAA  2160
CTGATGCAAT TGACAAACGT GTCCAGGGCT AAAGCAGAAG ATGCACTGTC TGAAATGAAG  2220
TCTCAGTATT CAAAAGTGTT GAATGAGTTG ACCCAGCTCA AACAACTGGT GGATGCACAA  2280
AAAGAGAACT CTGTCTCTAT CACAGAACAT TTGCAAGTGA TAACCACGCT GCGGACTGCA  2340
GCAAAAGAGA TGGAAGAAAA AATAAGCAAT CTTAAGGAAC ACCTTGCAAG CAAGGAAGTG  2400
GAAGTAGCAA AGCTGGAGAA ACAACTCTTA GAAGAGAAAG CTGCTATGAC TGATGCAATG  2460
GTACCTCGGT CTTCCTATGA AAAACTCCAG TCATCCTTAG AGAGTGAAGT GAGTGTGTTG  2520
GCATCGAAAT TAAAGGAATC TGTGAAAGAG AAAGAGAAGG TCCATTCAGA GGTTGTCCAG  2580
ATTAGAAGTG AGGTCTCACA GGTGAAAAGA GAAAAGGAAA ATATTCAGAC TCTCTTGAAA  2640
TCCAAAGAGC AAGAAGTAAA TGAACTTCTG CAAAAATTCC AGCAAGCTCA GGAAGAACTT  2700
GCAGAAATGA AAAGATACGC TGAGAGCTCT TCAAAACTGG AGGAAGATAA AGATAAAAAG  2760
ATAAATGAGA TGTCGAAGGA AGTCACCAAA TTGAAGGAGG CCTTGAACAG CCTCTCCCAG  2820
CTCTCCTACT CAACAAGCTC ATCCAAAAGG CAGAGTCAGC AGCTGGAGGC GCTGCAGCAG  2880
CAAGTCAAAC AGCTCCAGAA CCAGCTGGCG GAATGCAAGA AACAACACCA GGAGGTCATA  2940
TCAGTTTACA GAATGCATCT TCTGTATGCT GTGCAGGGCC AGATGGATGA AGATGTCCAG  3000
AAAGTACTGA AGCAAATCCT TACCATGTGT AAAAACCAGT CTCAAAAGAA GTAAAGTGGA  3060
TTCCTTGGCA GGACACTGCC CCTTGTCATC TGTCTTTGTG TTAGATCCAG AGTTGTCGGC  3120
AGCCGCTGCC ATTGTTCTCA TTCGTGGTAT GCACTGTGGC CTAGCGTAGC TTCTTCCCTT  3180
TCCAAAGGTT TCTGAGGACT TCTCCCAGGA GAAGACTGCC CGCCTCAGAA CTGCTTAGAG  3240
ACTTCAAACC AGCAGAGGTG AAAGTCCCTG TCATCCCTTC AGATTCCAGA GCTGGGATCA  3300
GCCATGCCCA GAGGTCTGGT CCTGATGCTG GCAGGGGGGC CCCCTCCTCC ATCCCTGACT  3360
GGCTGAGTGG CTTTATCACC ACCGAGTGAT GTGCTGAGGC CTCCTGCAGT GAATGCTCCT  3420
TCCATTCCTG TACTCGGGCA GTGCCATTCA GCACAGGAGA GCTCTTTTTG CCTTTGGCTT  3480
TCAATTCCAA AACATGATTT AATTTCTAAC TAAATTAGTA TGGCACTAGT TATGAAGTAT  3540
CTGCTTAAAA CCCTTCATCA TGATATCCTG TGGATTTAAA AACTCTAATT CCATGTTTTC  3600
TTCCCATCTG CCTTATATAT CTCATCACCC TGCTTATCAA TATTCAGTTT GATGAGCACT  3660
ATTAACTAAA ATATGAAACT TAAAAACAAA AGCAAGTTGT CCTTAAAAGT TCTTTTTTTA  3720
AGTAAATTGT TGACATACTG CAAATTTTCT ATGCAAACTT GCCTCCTGCT GTTATCTGTG  3780
AAGCTCAGGA AATCCAAACA TTTGTGTTTC AACAAGGGAC AGTAAACTGT GTGTTTACAG  3840
CCAAAAGAAA TGCCTCATAG TTCTTAACCT CAACTTTTGT AGAAGTATTT TTTTCTCTGT  3900
AATATTTTTA TTGGCTCATA AAGATGTTTT CATATCTGAA CTCCTAAATA AGTGAAATTA  3960
CAGTAGATTA TATTAACAAA ATACTTTTTA GGTAGCCATG CTTGAGACTT TTTAAAAATA  4020
TAACTTTTTC CTTAAAGTTT TCAGCTATAG CAAAAGGTAG TTATGTATGC CAGACCTAAT  4080
ATGAGCTGCC ACCAACACCC CTAGAACTTT CAGCCATGGT GTCTTCAGAA TTGTAGCGCA  4140
TTTCTGAATC TAGCAAATCC TCCTTTTACC CGTTGAATGT TTTGAATGCC CTGACTCTAC  4200
CAGCGCCCAT AAATGATCTC TAGAAGGACT GTTAGTACCA ATCTGTTTTT CAACTTTGAA  4260
GCTAAAAACC CTGATATGGT AATATTATGG TGCATAGCAG AGGTCTCGGA AAAAAAATAT  4320
TTCTGTTCAC TTTACTTTCA GGTTAAAAAT GTTTCTAACA CGCTTGCAAC TTCCCTTATG  4380
GCATTAATCT TGTTGAGGGA GAGAGACAGA ATCCTGGACT CTCCAAAGTA TTTAACTGAA  4440
AGTAGGGCCT GCTCTGACAG GGCCCATGTC CCACAAGGCT GCTTGGCCTC AGTGGGTGCT  4500
TGGCTGTGCT GGATGATATG TTGATCTGTA TTGGATAAGG ACCAATGACA GCAAAGCAAA  4560
AATGGCTTTA AAGCTTGGTG TTACTTTTCT TAAGTTGTTT AATTATAGTT AAGCAATTTC  4620
AAAAATGCTC CAAAGAAATG TGAAAGGACC TTTTGTCACA GCACTTCAGA AAATACACAA  4680
CAGCCCCTTC TGCCCCCGCA CAGAAATGCT GCAGAGTATA TAAAACTTGA GACATTTTTG  4740
TAGGATGCCT GACGAGGTGT AGCCTTTTAT CTTGTTTCCG GATGCATATT TATTACGAGT  4800
ACTCTGGTTA AATATTGAAA AGTTATATGC TGTAGTTTTT AGTATTTTGT CTTTGTAATT  4860
TACAGAAGTT ATTGGAGAAA ATAAACTTGT TTCATTTTGC AAAAAAAAAA AAAAAAAAAA  4920
AAAAA
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Seq ID No: 145 Protein sequence:
Protein Accession #: NP_056392.1

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1          11         21         31         41         51
|          |          |          |          |          |
MKSLKAKFRK SDTNEWNKND DRLLQAVENG DAEKVASLLG KKGASATKHD SEGKTAFHLA    60
```

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AAKGHVECLR VMITHGVDVT AQDTTGHSAL HLAAKNSHHE CIRRLLQSKC PAESVDSSGK   120
TALHYAAAQG CLQAVQILCE HKSPINLKDL DGNIPLLLAV QNGHSEICHF LLDHGADVNS   180
RNKSGRTALM LACEIGSSNA VEALIKKGAD LNLVDSLGYN ALHYSKLSEN AGIQSLLLSK   240
ISQDADLKTP TKPKQHDQVS KISSERSGTP KTRKAPPPPI SPTQLSDVSS PRSITSTPLS   300
GKESVFFAEP PFKAEISSIR ENKDRLSDST TGADSLLDIS SEADQQDLLS LLQAKVASLT   360
LHNKELQDKL QAKSPKEAEA DLSFDSYHST QTDLGPSLGK PGETSPPDSK SSPSVLIHSL   420
GKSTTDNDVR IQQLQEILQD LQKRLESSEA ERKQLQVELQ SRRAELVCLN NTEISENSSD   480
LSQKLKETQS KYEEAMKEVL SVQKQMKLGL VSPESMDNYS HFHELRVTEE EINVLKQDLQ   540
NALEESERNK EKVRELEEKL VEREKGTVIK PPVEEYEEMK SSYCSVIENM NKEKAFLFEK   600
YQEAQEEIMK LKDTLKSQMT QEASDEAEDM KEAMNRMIDE LNKQVSELSQ LYKEAQAELE   660
DYRKRKSLED VTAEYIHKAE HEKLMQLTNV SRAKAEDALS EMKSQYSKVL NELTQLKQLV   720
DAQKENSVSI TEHLQVITTL RTAAKEMEEK ISNLKEHLAS KEVEVAKLEK QLLEEKAAMT   780
DAMVPRSSYE KLQSSLESEV SVLASKLKES VKEKEKVHSE VVQIRSEVSQ VKREKENIQT   840
LLKSKEQEVN ELLQKFQQAQ EELAEMKRYA ESSSKLEEDK DKKINEMSKE VTKLKEALNS   900
LSQLSYSTSS SKRQSQQLEA LQQQVKQLQN QLAECKKQHQ EVISVYRMHL LYAVQGQMDE   960
DVQKVLKQIL TMCKNQSQKK
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Seq ID NO: 146 <u>DNA sequence</u>
Nucleic Acid Accession #: NM_000459.1
Coding sequence: 149-3523 (underlined sequences correspond to start and stop codons)

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Seq ID No: 147 Protein sequence:
Protein Accession #: NP_000450.1

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AQPQDAGVYS ARYIGGNLFT SAFTRLIVRR CEAQKWGPEC NHLCTACMNN GVCHEDTGEC   240
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LLYKPVNHYE AWQHIQVTNE IVTLNYLEPR TEYELCVQLV RRGEGGEGHP GPVRRFTTAS   540
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Seq ID NO: 148 DNA sequence
Nucleic Acid Accession #: NM_000552.2
Coding sequence: 311-8752 (underlined sequences correspond to start and stop codons)

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GGATGCCGTG ATGGGCCTCC GCGTGGCCCA GTGCTCCCAG AAGCCCTGTG AGGACAGCTG  7740
TCGGTCGGGC TTCACTTACG TTCTGCATGA AGGCGAGTGC TGTGGAAGGT GCCTGCCATC  7800
TGCCTGTGAG GTGGTGACTG GCTCACCGCG GGGGGACTCC CAGTCTTCCT GGAAGAGTGT  7860
CGGCTCCCAG TGGGCCTCCC CGGAGAACCC CTGCCTCATC AATGAGTGTG TCCGAGTGAA  7920
GGAGGAGGTC TTTATACAAC AAAGGAACGT CTCCTGCCCC CAGCTGGAGG TCCCTGTCTG  7980
CCCCTCGGGC TTTCAGCTGA GCTGTAAGAC CTCAGCGTGC TGCCCAAGCT GTCGCTGTGA  8040
GCGCATGGAG GCCTGCATGC TCAATGGCAC TGTCATTGGG CCCGGGAAGA CTGTGATGAT  8100
CGATGTGTGC ACGACCTGCC GCTGCATGGT GCAGGTGGGG GTCATCTCTG GATTCAAGCT  8160
GGAGTGCAGG AAGACCACCT GCAACCCCTG CCCCCTGGGT TACAAGGAAG AAAATAACAC  8220
AGGTGAATGT TGTGGGAGAT GTTTGCCTAC GGCTTGCACC ATTCAGCTAA GAGGAGGACA  8280
GATCATGACA CTGAAGCGTG ATGAGACGCT CCAGGATGGC TGTGATACTC ACTTCTGCAA  8340
GGTCAATGAG AGAGGAGAGT ACTTCTGGGA GAAGAGGGTC ACAGGCTGCC CACCCTTTGA  8400
TGAACACAAG TGTCTGGCTG AGGGAGGTAA AATTATGAAA ATTCCAGGCA CCTGCTGTGA  8460
CACATGTGAG GAGCCTGAGT GCAACGACAT CACTGCCAGG CTGCAGTATG TCAAGGTGGG  8520
AAGCTGTAAG TCTGAAGTAG AGGTGGATAT CCACTACTGC CAGGGCAAAT GTGCCAGCAA  8580
AGCCATGTAC TCCATTGACA TCAACGATGT GCAGGACCAG TGCTCCTGCT GCTCTCCGAC  8640
ACGGACGGAG CCCATGCAGG TGGCCCTGCA CTGCACCAAT GGCTCTGTTG TGTACCATGA  8700
GGTTCTCAAT GCCATGGAGT GCAAATGCTC CCCCAGGAAG TGCAGCAAGT GAGGCTGCTG  8760
CAGCTGCATG GGTGCCTGCT GCTGCCTGCC TTGGCCTGAT GGCCAGGCCA GAGTGCTGCC  8820
AGTCCTCTGC ATGTTCTGCT CTTGTGCCCT TCTGAGCCCA CAATAAAGGC TGAGCTCTTA  8880
TCTTGCTGCA TGTTCTGCTC TTGTGCCCTT CTGAGCCCAC AAT
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Seq ID No: 149 <u>Protein sequence:</u>
Protein Accession #: NP_000543.1

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1          11         21         31         41         51
|          |          |          |          |          |
MIPARFAGVL LALALILPGT LCAEGTRGRS STARCSLFGS DFVNTFDGSM YSFAGYCSYL    60
LAGGCQKRSF SIIGDFQNGK RVSLSVYLGE FFDIHLFVNG TVTQGDQRVS MPYASKGLYL   120
ETEAGYYKLS GEAYGFVARI DGSGNFQVLL SDRYFNKTCG LCGNFNIFAE DDFMTQEGTL   180
TSDPYDFANS WALSSGEQWC ERASPPSSSC NISSGEMQKG LWEQCQLLKS TSVFARCHPL   240
VDPEPFVALC EKTLCECAGG LECACPALLE YARTCAQEGM VLYGWTDHSA CSPVCPAGME   300
YRQCVSPCAR TCQSLHINEM CQERCVDGCS CPEGQLLDEG LCVESTECPC VHSGKRYPPG   360
TSLSRDCNTC ICRNSQWICS NEECPGECLV TGQSHFKSFD NRYFTFSGIC QYLLARDCQD   420
HSFSIVIETV QCADDRDAVC TRSVTVRLPG LHNSLVKLKH GAGVAMDGQD IQLPLLKGDL   480
RIQHTVTASV RLSYGEDLQM DWDGRGRLLV KLSPVYAGKT CGLCGNYNGN QGDDFLTPSG   540
LAEPRVEDFG NAWKLHGDCQ DLQKQHSDPC ALNPRMTRFS EEACAVLTSP TFEACHRAVS   600
PLPYLRNCRY DVCSCSDGRE CLCGALASYA AACAGRGVRV AWREPGRCEL NCPKGQVYLQ   660
CGTPCNLTCR SLSYPDEECN EACLEGCFCP PGLYMDERGD CVPKAQCPCY YDGEIFQPED   720
IFSDHHTMCY CEDGFMHCTM SGVPGSLLPD AVLSSPLSHR SKRSLSCRPP MVKLVCPADN   780
LRAEGLECTK TCQNYDLECM SMGCVSGCLC PPGMVRHENR CVALERCPCF HQGKEYAPGE   840
TVKIGCNTCV CRDRKWNCTD HVCDATCSTI GMAHYLTFDG LKYLFPGECQ YVLVQDYCGS   900
NPGTFRILVG NKGCSHPSVK CKKRVTILVE GGEIELFDGE VNVKRPMKDE THFEVVESGR   960
YIILLLGKAL SVVWDRHLSI SVVLKQTYQE KVCGLCGNFD GIQNNDLTSS NLQVEEDPVD  1020
FGNSWKVSSQ CADTRKVPLD SSPATCHNNI MKQTMVDSSC RILTSDVFQD CNKLVDPEPY  1080
LDVCIYDTCS CESIGDCACF CDTIAAYAHV CAQHGKVVTW RTATLCPQSC EERNLRENGY  1140
ECEWRYNSCA PACQVTCQHP EPLACPVQCV EGCHAHCPPG KILDELLQTC VDPEDCPVCE  1200
```

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VAGRRFASGK KVTLNPSDPE HCQICHCDVV NLTCEACQEP GGLVVPPTDA PVSPTTLYVE  1260
DISEPPLHDF YCSRLLDLVF LLDGSSRLSE AEFEVLKAFV VDMMERLRIS QKWVRVAVVE  1320
YHDGSHAYIG LKDRKRPSEL RRIASQVKYA GSQVASTSEV LKYTLFQIFS KIDRPEASRI  1380
ALLLMASQEP QRMSRNFVRY VQGLKKKKVI VIPVGIGPHA NLKQIRLIEK QAPENKAFVL  1440
SSVDELEQQR DEIVSYLCDL APEAPPPTLP PHMAQVTVGP GLLGVSTLGP KRNSMVLDVA  1500
FVLEGSDKIG EADFNRSKEF MEEVIQRMDV GQDSIHVTVL QYSYMVTVEY PFSEAQSKGD  1560
ILQRVREIRY QGGNRTNTGL ALRYLSDHSF LVSQGDREQA PNLVYMVTGN PASDEIKRLP  1620
GDIQVVPIGV GPNANVQELE RIGWPNAPIL IQDFETLPRE APDLVLQRCC SGEGLQIPTL  1680
SPAPDCSQPL DVILLLDGSS SFPASYFDEM KSFAKAFISK ANIGPRLTQV SVLQYGSITT  1740
IDVPWNVVPE KAHLLSLVDV MQREGGPSQI GDALGFAVRY LTSEMHGARP GASKAVVILV  1800
TDVSVDSVDA AADAARSNRV TVFPIGIGDR YDAAQLRILA GPAGDSNVVK LQRIEDLPTM  1860
VTLGNSFLHK LCSGFVRICM DEDGNEKRPG DVWTLPDQCH TVTCQPDGQT LLKSHRVNCD  1920
RGLRPSCPNS QSPVKVEETC GCRWTCPCVC TGSSTRHIVT FDGQNFKLTG SCSYVLFQNK  1980
EQDLEVILHN GACSPGARQG CMKSIEVKHS ALSVELHSDM EVTVNGRLVS VPYVGGNMEV  2040
NVYGAIMHEV RFNHLGHIFT FTPQNNEFQL QLSPKTFASK TYGLCGICDE NGANDFMLRD  2100
GTVTTDWKTL VQEWTVQRPG QTCQPILEEQ CLVPDSSHCQ VLLLPLFAEC HKVLAPATFY  2160
AICQQDSCHQ EQVCEVIASY AHLCRTNGVC VDWRTPDFCA MSCPPSLVYN HCEHGCPRHC  2220
DGNVSSCGDH PSEGCFCPPD KVMLEGSCVP EEACTQCIGE DGVQHQFLEA WVPDHQPCQI  2280
CTCLSGRKVN CTTQPCPTAK APTCGLCEVA RLRQNADQCC PEYECVCDPV SCDLPPVPHC  2340
ERGLQPTLTN PGECRPNFTC ACRKEECKRV SPPSCPPHRL PTLRKTQCCD EYECACNCVN  2400
STVSCPLGYL ASTATNDCGC TTTTCLPDKV CVHRSTIYPV GQFWEEGCDV CTCTDMEDAV  2460
MGLRVAQCSQ KPCEDSCRSG FTYVLHEGEC CGRCLPSACE VVTGSPRGDS QSSWKSVGSQ  2520
WASPENPCLI NECVRVKEEV FIQQRNVSCP QLEVPVCPSG FQLSCKTSAC CPSCRCERME  2580
ACMLNGTVIG PGKTVMIDVC TTCRCMVQVG VISGFKLECR KTTCNPCPLG YKEENNTGEC  2640
CGRCLPTACT IQLRGGQIMT LKRDETLQDG CDTHFCKVNE RGEYFWEKRV TGCPPFDEHK  2700
CLAEGGKIMK IPGTCCDTCE EPECNDITAR LQYVKVGSCK SEVEVDIHYC QGKCASKAMY  2760
SIDINDVQDQ CSCCSPTRTE PMQVALHCTN GSVVYHEVLN AMECKCSPRK CSK
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Seq ID NO: 150 DNA sequence
Nucleic Acid Accession #: NM_001508.1
Coding sequence: 1-1362 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
ATGGCTTCAC CCAGCCTCCC GGGCAGTGAC TGCTCCCAAA TCATTGATCA CAGTCATGTC    60
CCCGAGTTTG AGGTGGCCAC CTGGATCAAA ATCACCCTTA TTCTGGTGTA CCTGATCATC   120
TTCGTGATGG GCCTTCTGGG GAACAGCGTC ACCATTCGGG TCACCCAGGT GCTGCAGAAG   180
AAAGGATACT TGCAGAAGGA GGTGACAGAC CACATGGTGA GTTTGGCTTG CTCGGACATC   240
TTGGTGTTCC TCATCGGCAT GCCCATGGAG TTCTACAGCA TCATCTGGAA TCCCCTGACC   300
ACGTCCAGCT ACACCCTGTC CTGCAAGCTG CACACTTTCC TCTTCGAGGC CTGCAGCTAC   360
GCTACGCTGC TGCACGTGCT GACGCTCAGC TTTGAGCGCT ACATCGCCAT CTGTCACCCC   420
TTCAGGTACA AGGCTGTGTC GGGACCTTGC CAGGTGAAGC TGCTGATTGG CTTCGTCTGG   480
GTCACCTCCG CCCTGGTGGC ACTGCCCTTG CTGTTTGCCA TGGGTACTGA GTACCCCCTG   540
GTGAACGTGC CCAGCCACCG GGGTCTCACT TGCAACCGCT CCAGCACCCG CCACCACGAG   600
CAGCCCGAGA CCTCCAATAT GTCCATCTGT ACCAACCTCT CCAGCCGCTG GACCGTGTTC   660
CAGTCCAGCA TCTTCGGCGC CTTCGTGGTC TACCTCGTGG TCCTGCTCTC CGTAGCCTTC   720
ATGTGCTGGA ACATGATGCA GGTGCTCATG AAAAGCCAGA AGGGCTCGCT GGCCGGGGGC   780
ACGCGGCCTC CGCAGCTGAG GAAGTCCGAG AGCGAAGAGA GCAGGACCGC CAGGAGGCAG   840
ACCATCATCT TCCTGAGGCT GATTGTTGTG ACATTGGCCG TATGCTGGAT GCCCAACCAG   900
ATTCGGAGGA TCATGGCTGC GGCCAAACCC AAGCACGACT GGACGAGGTC CTACTTCCGG   960
GCGTACATGA TCCTCCTCCC CTTCTCGGAG ACGTTTTTCT ACCTCAGCTC GGTCATCAAC  1020
CCGCTCCTGT ACACGGTGTC CTCGCAGCAG TTTCGGCGGG TGTTCGTGCA GGTGCTGTGC  1080
TGCCGCCTGT CGCTGCAGCA CGCCAACCAC GAGAAGCGCC TGCGCGTACA TGCGCACTCC  1140
ACCACCGACA GCGCCCGCTT TGTGCAGCGC CCGTTGCTCT TCGCGTCCCG GCGCCAGTCC  1200
TCTGCAAGGA GAACTGAGAA GATTTTCTTA AGCACTTTTC AGAGCGAGGC CGAGCCCCAG  1260
TCTAAGTCCC AGTCATTGAG TCTCGAGTCA CTAGAGCCCA ACTCAGGCGC GAAACCAGCC  1320
AATTCTGCTG CAGAGAATGG TTTTCAGGAG CATGAAGTTT GA
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Seq ID No: 151 Protein sequence:
Protein Accession #: NP_001499.1

```
1          11         21         31         41         51
|          |          |          |          |          |
MASPSLPGSD CSQIIDHSHV PEFEVATWIK ITLILVYLII FVMGLLGNSV TIRVTQVLQK    60
KGYLQKEVTD HMVSLACSDI LVFLIGMPME FYSIIWNPLT TSSYTLSCKL HTFLFEACSY   120
ATLLHVLTLS FERYIAICHP FRYKAVSGPC QVKLLIGFVW VTSALVALPL LFAMGTEYPL   180
VNVPSHRGLT CNRSSTRHHE QPETSNMSIC TNLSSRWTVF QSSIFGAFVV YLVVLLSVAF   240
MCWNMMQVLM KSQKGSLAGG TRPPQLRKSE SEESRTARRQ TIIFLRLIVV TLAVCWMPNQ   300
IRRIMAAAKP KHDWTRSYFR AYMILLPFSE TFFYLSSVIN PLLYTVSSQQ FRRVFVQVLC   360
CRLSLQHANH EKRLRVHAHS TTDSARFVQR PLLFASRRQS SARRTEKIFL STFQSEAEPQ   420
SKSQSLSLES LEPNSGAKPA NSAAENGFQE HEV
```

Seq ID NO: 152 DNA sequence

Nucleic Acid Accession #: none found
Coding sequence: 3-65 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
TTATTATTTT GTGTAAACTA TATTCTGCTT ATAGAGAGTC TCTGAGACTA AAATTGACAA     60
CTTGAAAAGT ATTCCAAGGA ATATTATGAA AATAGGGCAA CATGGACTGT TTAAGATCTC    120
CATGTAATTG AAATTCATGC AAGGAAACAA CTCATAGAAA AGATAAATAT GGATGCCCTT    180
CACATGTTAT CAACCTCGTA ACTTTTGGTG CTTGCTGAAT CAGTCCATGA AAAGCTACAG    240
CCCGCTCTTT GGGAATGCTA CATACCCATT TCTGGTATTT AAAAAATATC TAGGAGGAGC    300
TAAATGACAA AACACAGCAG TGTTTTGAGG GAGAAAGGAC CATCATTTAT AATGCTCTGT    360
ACATACTACC AGAGCTGCTT GGAAAATTAA AGGCCACTTG TGGCTTTTTC CTACCAACTG    420
ATACGTTTAA ATTTGCCCTA GGATTSAGCT AACAGCAAAA AAAAAAAAAA AAAAAAAARA    480
GAGAGAAAGA AAGGAGKAAA CAGTGGTAAT AAAAAAATCC ATCTGTCTTC TTGCTATGTT    540
AATATTAATA AATCATAATA TGACAAGACC CTCACTGAAT AAGAGTATTT TCAGTCATCA    600
GAAGCCAGCT GTTGGTAGGC ATTAATGAGT TTAAAATTGT TCTCAATTGA AAAAACATCA    660
CACTATTTTG CCAAAACCAA AGTAATTATA ATACTGTGTC CTCCTGTAAT TTTTTGAGAA    720
GTGGTTATAA AGGGCATATT TACATAAATT CTACTTTATT CCTCAACTTC TTTGATGAAT    780
GTAACCCAAT TTTACTTCTT TAAAAGTCT CAATTCAAGC TGGATTAGCC AGCTCAGCAT     840
AATCAACTAG ACAGTGGTTT GTTAAATTTA GCAGCATACT TCGTTCCCAT TCTAATTAAA    900
GTCATGAGTT CTTGAATCCC AGAGAAATAA TGCTTAGGAA CTTCTCTCAA TCTGCTTGGC    960
TTGGCCTAGA GAAGTGGCCA TTTTATCAAC AGGRAAAAAA AAAATTTTCT CTACTACAAC   1020
CCCGTTGCCT TCTGAAAAAC AGCAAGTTAT TTCTTTATAT AATTATCATT TTATTATTTT   1080
ATGGAAAATT AATTTATTAA TTAATAGCCT ATTATGTGTT CTCACTTGCT TCTCTAAGTA   1140
ATATTTTGAG ATAAAATGTT GAATAAAACC ATGGATTATA GAGAAAAGTC AAAATATATG   1200
TGTAATATTT AATTATTTTA TAAGTTTTAT AATAAAGTAT TCCATTTCTT TATCTT
```

Seq ID No: 153 Protein sequence:
Protein Accession #: none found

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1          11         21         31         41         51
|          |          |          |          |          |
IILCKLYSAY RESLRLKLTT
```

Seq ID NO: 154 DNA sequence
Nucleic Acid Accession #: none found
Coding sequence: 1-36 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
CTGGATGATA TGGAAGAAAT GGATGGGTTA AGGTAAAAGG CTGATCACAG ATGGGTTCCT     60
CTCAAGGTTA AAATAGTTTA AGTGCCAGAA GAAAAGGTGG GCACCAGCGA ATTAAGAACC    120
ATCTTTGAAT GGTCCCCTTG GTTAAATACT TAACTTTTGT CATCAGTGTC TGCATTTATG    180
AAATGAAGAG GAATTCACTA ATATGCTACG TGATCTTTTG TTTGTCATGA AAAGAGTTAC    240
TGTTGTGTAG TTCTCTGTTC CAGGGCTGCC TTTGCTCCAC AAAGCACTGA GAAGCAGTGG    300
CCCTGTACAA CCATACTGCC TCTCAACACT GTGTAATAGG CTAACACCGC CCAGCGAACC    360
TTCCTGGGAG ATATAAAATA CATAGGTTTA GGCTGGCAAA AAAAAAAAAA AAA
```

Seq ID No: 155 Protein sequence:
Protein Accession #: none found

```
1          11         21         31         41         51
|          |          |          |          |          |
LDDMEEMDGL R
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Seq ID NO: 156 DNA sequence
Nucleic Acid Accession #: NM_032961.1
Coding sequence: 827-3949 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
CAGGCTCAGA GGCTGAAGCA GGAGGAAGGA AGGACTGGAA GGAAAAAGAG ACAGGTTAGA     60
GGGAAAGAGG CTTGGGAAGA AAACAGCAGA AAAGAAACTG CTCATTACAC TTACAGAGAG    120
GCAAGTAACG GTGGAGATGA GGACAGAGGG AACCAAGACT CTGAAAGACA AAAAATACAA    180
ATAGAGCGAA AGAGGAAAAA AATGTCAAGA AGAACATCCA TCCGGAGAAA TGAAGAGAAT    240
GAAAGTTTTA AACTGCAGAG CCGTTCTGTG CTTTTCCGGC ACAAAATTAT ATCGCTGATT    300
TTAAGCCCTT TTGCATTTGC CAGCCGTTGA CATTAAGAGG CATGTTTAAC GGTGCCAACA    360
GCATCTCCTT TTCCTTCTCC TCTTCCTCTT CTTCTTCTTC CTCCTCCTCC TCCTCTTTTT    420
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CCTCCTCCTC GTTCTCCTCC CATCAGCAAG AAGACAAACC GAGGACAGTC TTGAAATATC   480
GAAATTTCCT CTTTGGGATT TGCCAGCGCC AAGACTGTCG GAATAAAGGA CGCTGACTAT   540
TGTATTATTG TTATTTTATT AATTAGTCAG TGGAAAGATT ACAGATGAGG AAAGGGGACG   600
CCTGTCACCC TTCCTGTGCT AAGATTTAAA AAAAAATGAG GCTGGATTGC GGGAAGCTCT   660
AAAATGAAGC AAAAGGAGTA AGATTTTTAA AGACAGAAAG CCACAGGAGC CCCCACGTAG   720
CGCACTTTTA TTTGTATTTT TTCAGATTTT TTTTTGTTTC GTGGTGGTGG GGGAGGTGAT   780
TGGGTGGCTG ACTGGCTGCG GGAAGCTACT TCCTTTCCTT TTGGAGATGA TTGTGCTATT   840
ATTGTTTGCC TTGCTCTGGA TGGTGGAAGG AGTCTTTTCC CAGCTTCACT ACACGGTACA   900
GGAGGAGCAG GAACATGGCA CTTTCGTGGG GAATATCGCT GAAGATCTGG GTCTGGACAT   960
TACAAAACTT TCGGCTCGCG GGTTTCAGAC GGTGCCCAAC TCAAGGACCC CTTACTTAGA  1020
CCTCAACCTG GAGACAGGGG TGCTGTACGT GAACGAGAAA ATAGACCGCG AACAAATCTG  1080
CAAACAGAGC CCCTCCTGTG TCCTGCACCT GGAGGTCTTT CTGGAGAACC CCCTGGAGCT  1140
GTTCCAGGTG GAGATCGAGG TGCTGGACAT TAATGACAAC CCCCCCTCTT TCCCGGAGCC  1200
AGACCTGACG GTGGAAATCT CTGAGAGCGC CACGCCAGGC ACTCGCTTCC CCTTGGAGAG  1260
CGCATTCGAC CCAGACGTGG GCACCAACTC CTTGCGCGAC TACGAGATCA CCCCCAACAG  1320
CTACTTCTCC CTGGACGTGC AGACCCAGGG GGATGGCAAC CGATTCGCTG AGCTGGTGCT  1380
GGAGAAGCCA CTGGACCGAG AGCAGCAAGC GGTGCACCGC TACGTGCTGA CCGCGGTGGA  1440
CGGAGGAGGT GGGGGAGGAG TAGGAGAAGG AGGGGGAGGT GGCGGGGGAG CAGGCCTGCC  1500
CCCCCAGCAG CAGCGCACCG GCACGGCCCT ACTCACCATC CGAGTGCTGG ACTCCAATGA  1560
CAATGTGCCC GCTTTCGACC AACCCGTCTA CACTGTGTCC CTACCAGAGA ACTCTCCCCC  1620
AGGCACTCTC GTGATCCAGC TCAACGCCAC CGACCCGGAC GAGGGCCAGA ACGGTGAGGT  1680
CGTGTACTCC TTCAGCAGCC ACATTTCGCC CCGGGCGCGG GAGCTTTTCG GACTCTCGCC  1740
GCGCACTGGC AGACTGGAGG TAAGCGGCGA GTTGGACTAT GAAGAGAGCC CAGTGTACCA  1800
AGTGTACGTG CAAGCCAAGG ACCTGGGCCC CAACGCCGTG CCTGCGCACT GCAAGGTGCT  1860
AGTGCGAGTA CTGGATGCTA ATGACAACGC GCCAGAGATC AGCTTCAGCA CCGTGAAGGA  1920
AGCGGTGAGT GAGGGCGCGG CGCCCGGCAC TGTGGTGGCC CTTTTCAGCG TGACTGACCG  1980
CGACTCAGAG GAGAATGGGC AGGTGCAGTG CGAGCTACTG GGAGACGTGC CTTTCCGCCT  2040
CAAGTCTTCC TTTAAGAATT ACTACACCAT CGTTACCGAA GCCCCCCTGG ACCGAGAGGC  2100
GGGGGACTCC TACACCCTGA CTGTAGTGGC TCGGGACCGG GGCGAGCCTG CGCTCTCCAC  2160
CAGTAAGTCG ATCCAGGTAC AAGTGTCGGA TGTGAACGAC AACGCGCCGC GTTTCAGCCA  2220
GCCGGTCTAC GACGTGTATG TGACTGAAAA CAACGTGCCT GGCGCCTACA TCTACGCGGT  2280
GAGCGCCACC GACCGGGATG AGGGCGCCAA CGCCCAGCTT GCCTACTCTA TCCTCGAGTG  2340
CCAGATCCAG GGCATGAGCG TCTTCACCTA CGTTTCTATC AACTCTGAGA ACGGCTACTT  2400
GTACGCCCTG CGCTCCTTCG ACTATGAGCA GCTGAAGGAC TTCAGTTTTC AGGTGGAAGC  2460
CCGGGACGCT GGCAGCCCCC AGGCGCTGGC TGGTAACGCC ACTGTCAACA TCCTCATAGT  2520
GGATCAAAAT GACAACGCCC CTGCCATCGT GGCGCCTCTA CCAGGGCGCA ACGGGACTCC  2580
AGCGCGTGAG GTGCTGCCCC GCTCGGCGGA GCCGGGTTAC CTGCTCACCC GCGTGGCCGC  2640
CGTGGACGCG GACGACGGCG AGAACGCCCG GCTCACTTAC AGCATCGTGC GTGGCAACGA  2700
AATGAACCTC TTTCGCATGG ACTGGCGCAC CGGGGAGCTG CGCACAGCAC GCCGAGTCCC  2760
GGCCAAGCGC GACCCCCAGC GGCCTTATGA GCTGGTGATC GAGGTGCGCG ACCATGGGCA  2820
GCCGCCCCTT TCCTCCACCG CCACCCTGGT GGTTCAGCTG GTGGATGGCG CCGTGGAGCC  2880
CCAGGGCGGG GGCGGGAGCG GAGGCGGAGG GTCAGGAGAG CACCAGCGCC CCAGTCGCTC  2940
TGGCGGCGGG GAAACCTCGC TAGACCTCAC CCTCATCCTC ATCATCGCGT TGGGCTCGGT  3000
GTCCTTCATC TTCCTGCTGG CCATGATCGT GCTGGCCGTG CGTTGCCAAA AAGAGAAGAA  3060
GCTCAACATC TATACTTGTC TGGCCAGCGA TTGCTGCCTC TGCTGCTGCT GCTGCGGTGG  3120
CGGAGGTTCG ACCTGCTGTG GCCGCCAAGC CCGGGCGCGC AAGAAGAAAC TCAGCAAGTC  3180
AGACATCATG CTGGTGCAGA GCTCCAATGT ACCCAGTAAC CCGGCCCAGG TGCCGATAGA  3240
GGAGTCCGGG GGCTTTGGCT CCCACCACCA CAACCAGAAT TACTGCTATC AGGTATGCCT  3300
GACCCCTGAG TCCGCCAAGA CCGACCTGAT GTTTCTTAAG CCCTGCAGCC CTTCGCGGAG  3360
TACGGACACT GAGCACAACC CCTGCGGGGC CATCGTCACC GGTTACACCG ACCAGCAGCC  3420
TGATATCATC TCCAACGGAA GCATTTTGTC CAACGAGACT AAACACCAGC GAGCAGAGCT  3480
CAGCTATCTA GTTGACAGAC CTCGCCGAGT TAACAGTTCT GCATTCCAGG AAGCCGACAT  3540
AGTAAGCTCT AAGGACAGTG GTCATGGAGA CAGTGAACAG GGAGATAGTG ATCATGATGC  3600
CACCAACCGT GCCCAGTCAG CTGGTATGGA TCTCTTCTCC AATTGCACTG AGGAATGTAA  3660
AGCTCTGGGC CACTCAGATC GGTGCTGGAT GCCTTCTTTT GTCCCTTCTG ATGGACGCCA  3720
GGCTGCTGAT TATCGCAGCA ATCTGCATGT TCCTGGCATG GACTCTGTTC CAGACACTGA  3780
GGTGTTTGAA ACTCCAGAAG CCCAGCCTGG GGCAGAGCGG TCCTTTTCCA CCTTTGGCAA  3840
AGAGAAGGCC CTTCACAGCA CTCTGGAGAG GAAGGAGCTG GATGGACTGC TGACTAATAC  3900
GCGAGCGCCT TACAAACCAC CATATTTGAC ACGGAAAAGG ATATGCTAGT CAATTCTACA  3960
GGACTTACCT GAAGCAGCAT GATTTGCACA AAGTCGACCA ACAAAAGCAT CAACTTTTCA  4020
ACTTCATTAT CTTGGCCATC CAGTTAGTCA TGTGTAACTG AGTATTAGAT TTCGGATGGA  4080
GTCATCATGG CCAATTATAG GACCTAATTG CTCTCAGCAG GCCTGAGAAA TGAGTTGAAA  4140
TGTGCAGAAC TGTAGAAACT TTAGAGGCAA CAGATTTTGC CTCCCCGATC AGTGTGTGCC  4200
TGTTTACAGC ACTATCTATC TTTCTCTCTC CAAATGTCAC TGAGCCCTTT AGATGTTTAT  4260
ATTCACCACG AGAAGCCAGT CATAAAGATA AAGGAAATTT GTGCATTATA AATGCAATAT  4320
CACTGTTTTA AACTTGACTG TTTTATATTA TTTTTGTGTG ATCAAGTGTT CCGCAAGCTA  4380
TTCCAACTTT ACAAGAGAAA TTGTGATTAT GTTCTTTTCA CCTGTGGGTT ATAAAAAATG  4440
TTGTATTCTG AAGACCCACA AAATATCAAA GACATTCTGT AGTTTATACA CCGTGTTGCA  4500
AAGTGTTTAC TGTACTATTT CAAAGCTTCT AAATAAATAT AAAATATATA TATTATATTA  4560
TATAATTTTC CTAAAATGTG GTACAACTCA GTTGGTTTTT AAATGGATGC ATACAGTCCA  4620
CATCATACAA TAAAATAAAA GGTAATTCAG GGTCCCAAAG ACAAACTTAC TAAGAAAAAA  4680
TCATTAATAG TTTTCTCCCA ATTTCCATAT CTTACTCAAC CGTGTTTTTC CTTGTTTAAA  4740
AGAAAATGAT GCTCTAAGCT ACAAAATTTT GTCAAAAACT CATATTGAAT TTTCAATGCC  4800
AAAGATGTAG CTATTGATGT TATCAGACAG AGCACTGACT ATGTACTATC AAACTATCTA  4860
ACAATCTGCA TAAGTCTGAT TCTATTTCTA TGACTTTGAA TTTAGAATCA CTTAAAGCTT  4920
TTATAAAGAA TCGATAAATT CACCTGTATT TGTTGTTAGA AAAAAACTGG GTGTCTGTAC  4980
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ATTTTGTGGT GTAAAATATG TAATTGAAGA TTACTATTTT AAGAAGTCAT CAGTCATATC  5040
ACTCACACAG AATTTTATTT TACATAGTTT TGTGACTTAA TTACACATGA ATATAAAATC  5100
TATAATTCTA TATGAATATA TAGAGATATA GAAACATCTG AACTGGTAAA GAATAACTAT  5160
AAAATATGAA AGCTCTAAAT TTAAAATAAA TTTAGAGATA GAATCATGGT ACATTATTGT  5220
TTCAGTATTC CATGTAAAAA TTTTATAGCT TAAATGTAGT CAGTGTTTGA TTAATGAAAA  5280
AATTCTTCAT GAGTCAGCCT TCAAAAGTTA AGCTTGCCTT TTACTTTTAT GTCAACAATA  5340
TTAATTATTA AATTTAGTAA GACGCAAAAA AAAAAAAAAA AAAA
```

Seq ID No: 157 Protein sequence:
Protein Accession #: NP_116586.1

```
1          11         21         31         41         51
|          |          |          |          |          |
MIVLLLFALL WMVEGVFSQL HYTVQEEQEH GTFVGNIAED LGLDITKLSA RGFQTVPNSR    60
TPYLDLNLET GVLYVNEKID REQICKQSPS CVLHLEVFLE NPLELFQVEI EVLDINDNPP   120
SFPEPDLTVE ISESATPGTR FPLESAFDPD VGTNSLRDYE ITPNSYFSLD VQTQGDGNRF   180
AELVLEKPLD REQQAVHRYV LTAVDGGGGG GVGEGGGGGG GAGLPPQQQR TGTALLTIRV   240
LDSNDNVPAF DQPVYTVSLP ENSPPGTLVI QLNATDPDEG QNGEVVYSFS SHISPRAREL   300
FGLSPRTGRL EVSGELDYEE SPVYQVYVQA KDLGPNAVPA HCKVLVRVLD ANDNAPEISF   360
STVKEAVSEG AAPGTVVALF SVTDRDSEEN GQVQCELLGD VPFRLKSSFK NYYTIVTEAP   420
LDREAGDSYT LTVVARDRGE PALSTSKSIQ VQVSDVNDNA PRFSQPVYDV YVTENNVPGA   480
YIYAVSATDR DEGANAQLAY SILECQIQGM SVFTYVSINS ENGYLYALRS FDYEQLKDFS   540
FQVEARDAGS PQALAGNATV NILIVDQNDN APAIVAPLPG RNGTPAREVL PRSAEPGYLL   600
TRVAAVDADD GENARLTYSI VRGNEMNLFR MDWRTGELRT ARRVPAKRDP QRPYELVIEV   660
RDHGQPPLSS TATLVVQLVD GAVEPQGGGG SGGGGSGEHQ RPSRSGGGET SLDLTLILII   720
ALGSVSFIFL LAMIVLAVRC QKEKKLNIYT CLASDCCLCC CCCGGGGSTC CGRQARARKK   780
KLSKSDIMLV QSSNVPSNPA QVPIEESGGF GSHHHNQNYC YQVCLTPESA KTDLMFLKPC   840
SPSRSTDTEH NPCGAIVTGY TDQQPDIISN GSILSNETKH QRAELSYLVD RPRRVNSSAF   900
QEADIVSSKD SGHGDSEQGD SDHDATNRAQ SAGMDLFSNC TEECKALGHS DRCWMPSFVP   960
SDGRQAADYR SNLHVPGMDS VPDTEVFETP EAQPGAERSF STFGKEKALH STLERKELDG  1020
LLTNTRAPYK PPYLTRKRIC
```

Seq ID NO: 158 DNA sequence
Nucleic Acid Accession #: NM_022159.1
Coding sequence: 70-1890(underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
GTGAAATTTA AACTCCAGTC CTGTGGCGAA AATGCTAATT GCACTAACAC AGAAGGAAGT    60
TATTATTGTA TGTGTGTACC TGGCTTCAGA TCCAGCAGTA ACCAAGACAG GTTTATCACT   120
AATGATGGAA CCGTCTGTAT AGAAAATGTG AATGCAAACT GCCATTTAGA TAATGTCTGT   180
ATAGCTGCAA ATATTAATAA AACTTTAACA AAAATCAGAT CCATAAAAGA ACCTGTGGCT   240
TTGCTACAAG AAGTCTATAG AAATTCTGTG ACAGATCTTT CACCAACAGA TATAATTACA   300
TATATAGAAA TATTAGCTGA ATCATCTTCA TTACTAGGTT ACAAGAACAA CACTATCTCA   360
GCCAAGGACA CCCTTTCTAA CTCAACTCTT ACTGAATTTG TAAAAACCGT GAATAATTTT   420
GTTCAAAGGG ATACATTTGT AGTTTGGGAC AAGTTATCTG TGAATCATAG GAGAACACAT   480
CTTACAAAAC TCATGCACAC TGTTGAACAA GCTACTTTAA GGATATCCCA GAGCTTCCAA   540
AAGACCACAG AGTTTGATAC AAATTCAACG GATATAGCTC TCAAAGTTTT CTTTTTTGAT   600
TCATATAACA TGAAACATAT TCATCCTCAT ATGAATATGG ATGGAGACTA CATAAATATA   660
TTTCCAAAGA GAAAAGCTGC ATATGATTCA AATGGCAATG TTGCAGTTGC ATTTTTATAT   720
TATAAGAGTA TTGGTCCTTT GCTTTCATCA TCTGACAACT TCTTATTGAA ACCTCAAAAT   780
TATGATAATT CTGAAGAGGA GGAAAGAGTC ATATCTTCAG TAATTTCAGT CTCAATGAGC   840
TCAAACCCAC CCACATTATA TGAACTTGAA AAAATAACAT TTACATTAAG TCATCGAAAG   900
GTCACAGATA GGTATAGGAG TCTATGTGCA TTTTGGAATT ACTCACCTGA TACCATGAAT   960
GGCAGCTGGT CTTCAGAGGG CTGTGAGCTG ACATACTCAA ATGAGACCCA CACCTCATGC  1020
CGCTGTAATC ACCTGACACA TTTTGCAATT TTGATGTCCT CTGGTCCTTC CATTGGTATT  1080
AAAGATTATA ATATTCTTAC AAGGATCACT CAACTAGGAA TAATTATTTC ACTGATTTGT  1140
CTTGCCATAT GCATTTTTAC CTTCTGGTTC TTCAGTGAAA TTCAAAGCAC CAGGACAACA  1200
ATTCACAAAA ATCTTTGCTG TAGCCTATTT CTTGCTGAAC TTGTTTTTCT TGTTGGGATC  1260
AATACAAATA CTAATAAGCT CTTCTGTTCA ATCATTGCCG GACTGCTACA CTACTTCTTT  1320
TTAGCTGCTT TTGCATGGAT GTGCATTGAA GGCATACATC TCTATCTCAT TGTTGTGGGT  1380
GTCATCTACA ACAAGGGATT TTTGCACAAG AATTTTTATA TCTTTGGCTA TCTAAGCCCA  1440
GCCGTGGTAG TTGGATTTTC GGCAGCACTA GGATACAGAT ATTATGGCAC AACCAAAGTA  1500
TGTTGGCTTA GCACCGAAAA CAACTTTATT TGGAGTTTTA TAGGACCAGC ATGCCTAATC  1560
ATTCTTGTTA ATCTCTTGGC TTTTGGAGTC ATCATATACA AAGTTTTTCG TCACACTGCA  1620
GGGTTGAAAC CAGAAGTTAG TTGCTTTGAG AACATAAGGT CTTGTGCAAG AGGAGCCCTC  1680
GCTCTTCTGT TCCTTCTCGG CACCACCTGG ATCTTTGGGG TTCTCCATGT TGTGCACGCA  1740
TCAGTGGTTA CAGCTTACCT CTTCACAGTC AGCAATGCTT TCCAGGGGAT GTTCATTTTT  1800
TTATTCCTGT GTGTTTTATC TAGAAAGATT CAAGAAGAAT ATTACAGATT GTTCAAAAAT  1860
GTCCCCTGTT GTTTTGGATG TTTAAGGTAA ACATAGAGAA TGGTGGATAA TTACAACTGC  1920
ACAAAAATAA AAATTCCAAG CTGTGGATGA CCAATGTATA AAAATGACTC ATCAAATTAT  1980
CCAATTATTA ACTACTAGAC AAAAAGTATT TTAAATCAGT TTTTCTGTTT ATGCTATAGG  2040
AACTGTAGAT AATAAGGTAA AATTATGTAT CATATAGATA TACTATGTTT TTCTATGTGA  2100
AATAGTTCTG TCAAAAATAG TATTGCAGAT ATTTGGAAAG TAATTGGTTT CTCAGGAGTG  2160
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ATATCACTGC ACCCAAGGAA AGATTTTCTT TCTAACACGA GAAGTATATG AATGTCCTGA  2220
AGGAAACCAC TGGCTTGATA TTTCTGTGAC TCGTGTTGCC TTTGAAACTA GTCCCCTACC  2280
ACCTCGGTAA TGAGCTCCAT TACAGAAAGT GGAACATAAG AGAATGAAGG GGCAGAATAT  2340
CAAACAGTGA AAAGGGAATG ATAAGATGTA TTTTGAATGA ACTGTTTTTT CTGTAGACTA  2400
GCTGAGAAAT TGTTGACATA AAATAAAGAA TTGAAGAAAC ACATTTTACC ATTTTGTGAA  2460
TTGTTCTGAA CTTAAATGTC CACTAAAACA ACTTAGACTT CTGTTTGCTA AATCTGTTTC  2520
TTTTTCTAAT ATTCTAAAA
```

Seq ID No: 159 Protein sequence:
Protein Accession #: NP_071442.1

```
1          11         21         31         41         51
|          |          |          |          |          |
MCVPGFRSSS NQDRFITNDG TVCIENVNAN CHLDNVCIAA NINKTLTKIR SIKEPVALLQ    60
EVYRNSVTDL SPTDIITYIE ILAESSSLLG YKNNTISAKD TLSNSTLTEF VKTVNNFVQR   120
DTFVVWDKLS VNHRRTHLTK LMHTVEQATL RISQSFQKTT EFDTNSTDIA LKVFFFDSYN   180
MKHIHPHMNM DGDYINIFPK RKAAYDSNGN VAVAFLYYKS IGPLLSSSDN FLLKPQNYDN   240
SEEEERVISS VISVSMSSNP PTLYELEKIT FTLSHRKVTD RYRSLCAFWN YSPDTMNGSW   300
SSEGCELTYS NETHTSCRCN HLTHFAILMS SGPSIGIKDY NILTRITQLG IIISLICLAI   360
CIFTFWFFSE IQSTRTTIHK NLCCSLFLAE LVFLVGINTN TNKLFCSIIA GLLHYFFLAA   420
FAWMCIEGIH LYLIVVGVIY NKGFLHKNFY IFGYLSPAVV VGFSAALGYR YYGTTKVCWL   480
STENNFIWSF IGPACLIILV NLLAFGVIIY KVFRHTAGLK PEVSCFENIR SCARGALALL   540
FLLGTTWIFG VLHVVHASVV TAYLFTVSNA FQGMFIFLFL CVLSRKIQEE YYRLFKNVPC   600
CFGCLR
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Seq ID NO: 160 DNA sequence
Nucleic Acid Accession #: none found
Coding sequence: 1-216 (underlined sequences correspond to start and stop codons)

```
1          11         21         31         41         51
|          |          |          |          |          |
TGTCTGCTTA TGCGGTGGCT CGCTGCTCAG AACAGGATGG CAGAGATGAG CACCACCATC    60
AAAAACTCAA GGACCAGTGC TGTGGGTCCA GTCATCTGTT TCATGGAATT CACCAGTCTG   120
GTATCTTCAA AATCCAGAAG GATGATGGCA GATGGCAGGA AGGAGGAAGA GGGTAATCTG   180
GAAGAGTTTC CTGACCTACT CTGCTGCTGT GATTAAACAA CCACCAGGAA ATTTTGATGA   240
CACTGTTCTC CTGAGCTCCT CCCTTTCCTC GGGGAAGAAA AGCATTGAAA CTACAAAAAT   300
AAAGTGTTAT TTGGCTGGAG TGAGGTCTCA TGTCTGCTTA TGCGGTGGCT CGCTGCTCAG   360
AACAGGGAAC CATTGGAGAT ACTCATTACT CTTTGAAGGC TTACAGTGGA ATGAATTCAA   420
ATACGACTTA TTTGAGGAAT TGAAGTTGAC TTTATGGAGC TGATAAGAAT CTTCTTGGAG   480
AAAAAAAGAC TGGTACTTCT GAATTAACCA AAATCACAGT ATTCTGAAGA TGATTCTACA   540
AAGCCTGCTG TTTCTACAAA GGCTGCTGAT GATTTCTACA AAGCCTGCTG TAGTGTTGCT   600
GTGGCCTCTG CTTAAAAAAG TAGAAAACAC ATTGATGCAG CATGTTCACC CCAACCTCCC   660
TGCCTAAAGG CTCAGGGACC ATCTTGGAAG AGGAAGGCGC GTGAGATTGT AAGAGCCGAA   720
TTAGGGGGAT GGAGTGTGGA GAATAAGGAC ACTTCATCTT GGATGCTCAC CTGCCAAATT   780
GACTTCTGAT GAAAGCCAGC TCCAGAAATG TGCCTACAGT TACTACTTTC ACCTAAACCC   840
TGCCCTTAGT CAAATCCTTC TCTTCTTCTA AGCAATCAAC TTCAATTCCT TGTATAACCC   900
ACAGTATAAA AGGGCTTTTA TACCATTCTA TCCTATTGCA TGTAAGCCTT GGGTCTGGGA   960
GGTAACAGTG TGGGATTCCA CCATCTCATC TCCCTGCCAC CCAAACATGC CTGCTCTTCT  1020
TTAAGCAATA TTAAATGTTT GTACTTCA
```

Seq ID No: 161 Protein sequence:
Protein Accession #: none found

```
1          11         21         31         41         51
|          |          |          |          |          |
CLLMRWLAAQ NRMAEMSTTI KNSRTSAVGP VICFMEFTSL VSSKSRRMMA DGRKEEEGNL    60
EEFPDLLCCC D
```

Seq ID NO: 162 DNA sequence
Nucleic Acid Accession #: none found
Coding sequence: 1-159(underlined sequences correspond to start and stop codons)

```
1          11         21         31         41         51
|          |          |          |          |          |
GAGACCCTCC AGAGGCAGGG CCCAGGATTG AAGAGGGAAG CCCTGCTCCA CACGTGTTCA    60
TCAGGAAGGA CCCACAGACT GCTGCTCCTG GAGGCCTCTC GGTTTATGGA TGTGTGTTTG   120
TTCCATAAAC CCTCAGAGGG TCACCTGGAG ACCCGCTAAA ATGCAGGTTC TTGGGCCACA   180
TCCTAGACCT TCTGACCGAC CCAGGGAGTG GGGCCCAGGA AGCTGCATTT GACAGATATC   240
CCCGTGTGAT CATCATGCAC ACAGGAGTGA GAGAACCAGT GTTCTCCCCG GGCAGAAGGG   300
AAGCTCGTGT GCAGGACACC TCACACCTCC TTTCCCATTC CCCTGCCAGG CTCTCCCTGC   360
TGACATTGTT TTTGCGGGAG AGCTGTGAAT TCTGAAGATT AGGTTGCTTC TCACCCCAAG   420
```

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CTCCAGAAGT CCAGGCTGAG CCAAACCAAG CTTCAAGTTG TGCCTGGACT TGGAGAACCA   480
GGAGGTGAGG GGACTGACTA CTTGAAGATC ACATGGAGGA GGAGTCTGAT CCAGGCCCAG   540
GCACCAAGGA AAGGCCATGC AAGGACACAG GGAGAAGGGC AGCTGTCTGT AAGCCAGAAA   600
GAGCCTTCAC TAGAAACCAA ATCAGCCAGA ACCTTCATCT TGGACTTTCC AGCCTTCAGA   660
GATGTGAAAA AATAAATTTC TGTTGATTAA CCTAAAAAA
```

Seq ID No: 163 Protein sequence:
Protein Accession #: none found

```
1          11         21         31         41         51
|          |          |          |          |          |
ETLQRQGPGL KREALLHTCS SGRTHRLLLL EASRFMDVCL FHKPSEGHLE TR
```

Seq ID NO: 164 DNA sequence
Nucleic Acid Accession #: NM_020241.1
Coding sequence: 4-1557 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
GCCATGCAGA CCCCGCGAGC GTCCCCTCCC CGCCCGGCCC TCCTGCTTCT GCTGCTGCTA    60
CTGGGGGGCG CCCACGGCCT CTTTCCTGAG GAGCCGCCGC CGCTTAGCGT GGCCCCCAGG   120
GACTACCTGA ACCACTATCC CGTGTTTGTG GGCAGCGGGC CCGGACGCCT GACCCCCGCA   180
GAAGGTGCTG ACGACCTCAA CATCCAGCGA GTCCTGCGGG TCAACAGGAC GCTGTTCATT   240
GGGGACAGGG ACAACCTCTA CCGCGTAGAG TTGGAGCCCC CCACGTCCAC GGAGCTGCGG   300
TACCAGAGGA AGCTGACCTG GAGATCTAAC CCCAGCGACA TAAACGTGTG TCGGATGAAG   360
GGCAAACAGG AGGGCGAGTG TCGAAACTTC GTAAAGGTGC TGCTCCTTCG GGACGAGTCC   420
ACGCTCTTTG TGTGCGGTTC CAACGCCTTC AACCCGGTGT GCGCCAACTA CAGCATAGAC   480
ACCCTGCAGC CCGTCGGAGA CAACATCAGC GGTATGGCCC GCTGCCCGTA CGACCCCAAG   540
CACGCCAATG TTGCCCTCTT CTCTGACGGG ATGCTCTTCA CAGCTACTGT TACCGACTTC   600
CTAGCCATTG ATGCTGTCAT CTACCGCAGC CTCGGGGACA GGCCCACCCT GCGCACCGTG   660
AAACATGACT CCAAGTGGTT CAAAGAGCCT TACTTTGTCC ATGCGGTGGA GTGGGGCAGC   720
CATGTCTACT TCTTCTTCCG GGAGATTGCG ATGGAGTTTA ACTACCTGGA GAAGGTGGTG   780
GTGTCCCGCG TGGCCCGAGT GTGCAAGAAC GACGTGGGAG GCTCCCCCCG CGTGCTGGAG   840
AAGCAGTGGA CGTCCTTCCT GAAGGCGCGG CTCAACTGCT CTGTACCCGG AGACTCCCAT   900
TTCTACTTCA ACGTGCTGCA GGCTGTCACG GGCGTGGTCA GCCTCGGGGG CCGGCCCGTG   960
GTCCTGGCCG TTTTTTCCAC GCCCAGCAAC AGCATCCCTG GCTCGGCTGT CTGCGCCTTT  1020
GACCTGACAC AGGTGGCAGC TGTGTTTGAA GGCCGCTTCC GAGAGCAGAA GTCCCCCGAG  1080
TCCATCTGGA CGCCGGTGCC GGAGGATCAG GTGCCTCGAC CCCGGCCCGG GTGCTGCGCA  1140
GCCCCCGGGA TGCAGTACAA TGCCTCCAGC GCCTTGCCGG ATGACATCCT CAACTTTGTC  1200
AAGACCCACC CTCTGATGGA CGAAGCGGTG CCCTCGCTGG GCCATGCGCC CTGGATCCTG  1260
CGGACCCTGA TGAGGCACCA GCTGACTCGA GTGGCTGTGG ACGTGGGAGC CGGCCCCTGG  1320
GGCAACCAGA CCGTTGTCTT CCTGGGTTCT GAGGCGGGGA CGGTCCTCAA GTTCCTCGTC  1380
CGGCCCAATG CCAGCACCTC AGGGACGTCT GGGCGTGTGT GTCAAGTGGG CCACGCGTGC  1440
AGGGTGTGTG TCCACGAGCG ACGATCGTGG TGGCCCCAGC GGCCTGGGCG TTGGCTGAGC  1500
CGACGCTGGG GCTTCCAGAA GGCCCGGGGG CCTCCGAGGT GCCGGTTAGG AGTTTGAACC  1560
CCCCCCACTC TGCAGAGGGA AGCGGGGACA ATGCCGGGGT TTCAGGCAGG AGACACGAGG  1620
AGGGCCTGCC CGGAAGTCAC ATCGGCAGCA GCTGTCTAAA GGGCTTGGGG GCCTGGGGGG  1680
CGGCGAAGGT GGGTGGGGCC CCTCTGTAAA TACGGCCCCA GGGTGGTGAG AGAGTCCCAT  1740
GCCACCCGTC CCCTTGTGAC CTCCCCCCTC TGACCTCCAG CTGACCATGC ATGCCACGTG  1800
G
```

Seq ID No: 165 Protein sequence:
Protein Accession #: NP_064626.1

```
1          11         21         31         41         51
|          |          |          |          |          |
MQTPRASPPR PALLLLLLLL GGAHGLFPEE PPPLSVAPRD YLNHYPVFVG SGPGRLTPAE    60
GADDLNIQRV LRVNRTLFIG DRDNLYRVEL EPPTSTELRY QRKLTWRSNP SDINVCRMKG   120
KQEGECRNFV KVLLLRDEST LFVCGSNAFN PVCANYSIDT LQPVGDNISG MARCPYDPKH   180
ANVALFSDGM LFTATVTDFL AIDAVIYRSL GDRPTLRTVK HDSKWFKEPY FVHAVEWGSH   240
VYFFFREIAM EFNYLEKVVV SRVARVCKND VGGSPRVLEK QWTSFLKARL NCSVPGDSHF   300
YFNVLQAVTG VVSLGGRPVV LAVFSTPSNS IPGSAVCAFD LTQVAAVFEG RFREQKSPES   360
IWTPVPEDQV PRPRPGCCAA PGMQYNASSA LPDDILNFVK THPLMDEAVP SLGHAPWILR   420
TLMRHQLTRV AVDVGAGPWG NQTVVFLGSE AGTVLKFLVR PNASTSGTSG RVCQVGHACR   480
VCVHERRSWW PQRPGRWLSR RWGFQKARGP PRCRLGV
```

Seq ID NO: 166 DNA sequence
Nucleic Acid Accession #: NM_032108.1
Coding sequence: 39-2705 (underlined sequences correspond to start and stop codons)

```
1          11         21         31         41         51
|          |          |          |          |          |
TCCGAGGCGT CACCTCCTCC TGTCGCCTGG CCCTCGCCAT GCAGACCCCG CGAGCGTCCC    60
CTCCCCGCCC GGCCCTGCTG CTTCTGCTGC TGCTACTGGG GGGCGCCCAC GGCCTCTTTC   120
```

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CTGAGGACCC GCCGCCGCTT AGCGTGGCCC CCAGGGACTA CCTGAACCAC TATCCCGTGT   180
TTGTGGGCAG CGGGCCCGGA CGCCTGACCC CCGCAGAAGG TGCTGACGAC CTCAACATCC   240
AGCGAGTCCT GCGGGTCAAC AGGACGCTGT TCATTGGGGA CAGGGACAAC CTCTACCGCG   300
TAGAGCTGGA GCCCCCCACG TCCACGGAGC TGCGGTACCA GAGGAAGCTG ACCTGGAGAT   360
CTAACCCCAG CGACATAAAC GTGTGTCGGA TGAAGGGCAA ACAGGAGGGC GAGTGTCGAA   420
ACTTCGTAAA GGTGCTGCTC CTTCGGGACG AGTCCACGCT CTTTGTGTGC GGTTCCAACG   480
CCTTCAACCC GGTGTGCGCC AACTACAGCA TAGACACCCT GCAGCCCGTC GGAGACAACA   540
TCAGCGGTAT GGCCCGCTGC CCGTACGACC CCAAGCACGC CAATGTTGCC CTCTTCTCTG   600
ACGGGATGCT CTTCACAGCT ACTGTTACCG ACTTCCTAGC CATTGATGCT GTCATCTACC   660
GCAGCCTCGG GGACAGGCCC ACCCTGCGCA CCGTGAAACA TGACTCCAAG TGGTTCAAAG   720
AGCCTTACTT TGTCCATGCG GTGGAGTGGG GCAGCCATGT CTACTTCTTC TTCCGGGAGA   780
TTGCGATGGA GTTTAACTAC CTGGAGAAGG TGGTGGTGTC CCGCGTGGCC CGAGTGTGCA   840
AGAACGACGT GGGAGGCTCC CCCCGCGTGC TGGAGAAGCA GTGGACGTCC TTCCTGAAGG   900
CGCGGCTCAA CTGCTCTGTA CCCGGAGACT CCCATTTCTA CTTCAACGTG CTGCAGGCTG   960
TCACGGGCGT GGTCAGCCTC GGGGGCCGGC CCGTGGTCCT GGCCGTTTTT TCCACGCCCA  1020
GCAACAGCAT CCCTGGCTCG GCTGTCTGCG CCTTTGACCT GACACAGGTG GCAGCTGTGT  1080
TTGAAGGCCG CTTCCGAGAG CAGAAGTCCC CCGAGTCCAT CTGGACGCCG GTGCCGGAGG  1140
ATCAGGTGCC TCGACCCCGG CCCGGGTGCT GCGCAGCCCC CGGGATGCAG TACAATGCCT  1200
CCAGCGCCTT GCCGGATGAC ATCCTCAACT TTGTCAAGAC CCACCCTCTG ATGGACGAGG  1260
CGGTGCCCTC GCTGGGCCAT GCGCCCTGGA TCCTGCGGAC CCTGATGAGG CACCAGCTGA  1320
CTCGAGTGGC TGTGGACGTG GGAGCCGGCC CCTGGGGCAA CCAGACCGTT GTCTTCCTGG  1380
GTTCTGAGGC GGGGACGGTC CTCAAGTTCC TCGTCCGGCC CAATGCCAGC ACCTCAGGGA  1440
CGTCTGGGCT CAGTGTCTTC CTGGAGGAGT TTGAGACCTA CCGGCCGGAC AGGTGTGGAC  1500
GGCCCGGCGG TGGCGAGACA GGGCAGCGGC TGCTGAGCTT GGAGCTGGAC GCAGCTTCGG  1560
GGGGCCTGCT GGCTGCCTTC CCCCGCTGCG TGGTCCGAGT GCCTGTGGCT CGCTGCCAGC  1620
AGTACTCGGG GTGTATGAAG AACTGTATCG GCAGTCAGGA CCCCTACTGC GGGTGGGCCC  1680
CCGACGGCTC CTGCATCTTC CTCAGCCCGG GCACCAGAGC CGCCTTTGAG CAGGACGTGT  1740
CCGGGGCCAG CACCTCAGGC TTAGGGGACT GCACAGGACT CCTGCGGGCC AGCCTCTCCG  1800
AGGACCGCGC GGGGCTGGTG TCGGTGAACC TGCTGGTAAC GTCGTCGGTG GCGGCCTTCG  1860
TGGTGGGAGC CGTGGTGTCC GGCTTCAGCG TGGGCTGGTT CGTGGGCCTC CGTGAGCGGC  1920
GGGAGCTGGC CCGGCGCAAG GACAAGGAGG CCATCCTGGC GCACGGGGCG GGCGAGGCGG  1980
TGCTGAGCGT CAGCCGCCTG GGCGAGCGCA GGGCGCAGGG TCCCGGGGGC CGGGGCGGAG  2040
GCGGTGGCGG TGGCGCCGGG GTTCCCCCGG AGGCCCTGCT GGCGCCCCTG ATGCAGAACG  2100
GCTGGGCCAA GGCCACGCTG CTGCAGGGCG GGCCCCACGA CCTGGACTCG GGGCTGCTGC  2160
CCACGCCCGA GCAGACGCCG CTGCCGCAGA AGCGCCTGCC CACTCCGCAC CCGCACCCCC  2220
ACGCCCTGGG CCCCCGCGCC TGGGACCACG GCCACCCCCT GCTCCCGGCC TCCGCTTCAT  2280
CCTCCCTCCT GCTGCTGGCG CCCGCCCGGG CCCCCGAGCA GCCCCCCGCG CCTGGGGAGC  2340
CGACCCCCGA CGGCCGCCTC TATGCTGCCC GGCCCGGCCG CGCCTCCCAC GGCGACTTCC  2400
CGCTCACCCC CCACGCCAGC CCGGACCGCC GGCGGGTGGT GTCCGCGCCC ACGGGCCCCT  2460
TGGACCCAGC CTCAGCCGCC GATGGCCTCC CGCGGCCCTG GAGCCCGCCC CCGACGGGCA  2520
GCCTGAGGAG GCCACTGGGC CCCCACGCCC CTCCGGCCGC CACCCTGCGC CGCACCCACA  2580
CGTTCAACAG CGGCGAGGCC CGGCCTGGGG ACCGCCACCG CGGCTGCCAC GCCCGGCCGG  2640
GCACAGACTT GGCCCACCTC CTCCCCTATG GGGGGGCGGA CAGGACTGCG CCCCCCGTGC  2700
CCTAGGCCGG GGGCCCCCCG ATGCCTTGGC AGTGCCAGCC ACGGGAACCA GGAGCGAGAG  2760
ACGGTGCCAG AACGCCGGGG CCCGGGGCAA CTCCGAGTGG GTGCTCAAGT CCCCCCCGCG  2820
ACCCACCCGC GGAGTGGGGG GCCCCCTCCG CCACAAGGAA GCACAACCAG CTCGCCCTCC  2880
CCCTACCCGG GGCCGCAGGA CGCTGAGACG GTTTGGGGGT GGGTGGGCGG GAGGACTTTG  2940
CTATGGATTT GAGGTTGACC TTATGCGCGT AGGTTTTGGT TTTTTTTGCA GTTTTGGTTT  3000
CTTTTGCGGT TTTCTAACCA ATTGCACAAC TCCGTTCTCG GGGTGGCGGC AGGCAGGGGA  3060
GGCTTGGACG CCGGTGGGGA ATGGGGGGCC ACAGCTGCAG ACCTAAGCCC TCCCCCACCC  3120
CTGGAAAGGT CCCTCCCCAA CCCAGGCCCC TGGCGTGTGT GGGTGTGCGT GCGTGTGCGT  3180
GCCGTGTTCG TGTGCAAGGG GCCGGGGAGG TGGGCGTGTG TGTGCGTGCC AGCGAAGGCT  3240
GCTGTGGGCG TGTGTGTCAA GTGGGCCACG CGTGCAGGGT GTGTGTCCAC GAGCGACGAT  3300
CGTGGTGGCC CCAGCGGCCT GGGCGTTGGC TGAGCCGACG CTGGGGCTTC CAGAAGGCCC  3360
GGGGGTCTCC GAGGTGCCGG TTAGGAGTTT GAACCCCCCC CACTCTGCAG AGGGAAGCGG  3420
GGACAATGCC GGGGTTTCAG GCAGGAGACA CGAGGAGGGC CTGCCCGGAA GTCACATCGG  3480
CAGCAGCTGT CTAAAGGGCT TGGGGGCCTG GGGGGCGGCG AAAG
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Seq ID No: 167 Protein sequence:
Protein Accession #: NP_115484.1

```
1          11         21         31         41         51
|          |          |          |          |          |
MQTPRASPPR PALLLLLLLL GGAHGLFPED PPPLSVAPRD YLNHYPVFVG SGPGRLTPAE    60
GADDLNIQRV LRVNRTLFIG DRDNLYRVEL EPPTSTELRY QRKLTWRSNP SDINVCRMKG   120
KQEGECRNFV KVLLLRDEST LFVCGSNAFN PVCANYSIDT LQPVGDNISG MARCPYDPKH   180
ANVALFSDGM LFTATVTDFL AIDAVIYRSL GDRPTLRTVK HDSKWFKEPY FVHAVEWGSH   240
VYFFFREIAM EFNYLEKVVV SRVARVCKND VGGSPRVLEK QWTSFLKARL NCSVPGDSHF   300
YFNVLQAVTG VVSLGGRPVV LAVFSTPSNS IPGSAVCAFD LTQVAAVFEG RFREQKSPES   360
IWTPVPEDQV PRPRPGCCAA PGMQYNASSA LPDDILNFVK THPLMDEAVP SLGHAPWILR   420
TLMRHQLTRV AVDVGAGPWG NQTVVFLGSE AGTVLKFLVR PNASTSGTSG LSVFLEEFET   480
YRPDRCGRPG GGETGQRLLS LELDAASGGL LAAFPRCVVR VPVARCQQYS GCMKNCIGSQ   540
DPYCGWAPDG SCIFLSPGTR AAFEQDVSGA STSGLGDCTG LLRASLSEDR AGLVSVNLLV   600
TSSVAAFVVG AVVSGFSVGW FVGLRERREL ARRKDKEAIL AHGAGEAVLS VSRLGERRAQ   660
GPGGRGGGGG GGAGVPPEAL LAPLMQNGWA KATLLQGGPH DLDSGLLPTP EQTPLPQKRL   720
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PTPHPHPHAL GPRAWDHGHP LLPASASSSL LLLAPARAPE QPPAPGEPTP DGRLYAARPG   780
RASHGDFPLT PHASPDRRRV VSAPTGPLDP ASAADGLPRP WSPPPTGSLR RPLGPHAPPA   840
ATLRRTHTFN SGEARPGDRH RGCHARPGTD LAHLLPYGGA DRTAPPVP
```

Seq ID NO: 168 DNA sequence
Nucleic Acid Accession #: AW205664
Coding sequence: 1-135 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
CGGCACGAGG AGAACAGGGG CCTCTGCCTC AGTTTGCCCG GGAGCCAGCC AGGGCCCATC     60
CTAATTTGGA GCACAGTCTT CCCGGTGCCT AGACATGCCA AGGCCCCTCC CACGTGGTAC    120
ACCCTCTCCG TTTAGTACCT GACCACCTGT TTCAAAACGC AGGTGTTTCT GGTTTAGAAA    180
CTTGGAAGGC GGAATGTGTT TTCGTGTCTT CTAGGAAGGG TCTGCTGAGG ACCAGACCAC    240
GTAAGCCTGA GTGGATCCTG ACTCAGCTGC AGCCCTTACC TGCCTCGTGC TGATGATCTA    300
TGCATGGCGT TATGTAGATC ACGTGCGGCA GAGACAGCCA CTGTCCTGTG TGCGGGTTTT    360
TAAAACAGCT GCCCTGGATG AAACGGAATA AACCAGTGAT GCTAAAAAAA AAAAAAAAAA
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Seq ID No: 169 Protein sequence:
Protein Accession #: AW205664

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1          11         21         31         41         51
|          |          |          |          |          |
RHEENRGLCL SLPGSQPGPI LIWSTVFPVP RHAKAPPTWY TLSV
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Seq ID NO: 170 DNA sequence
Nucleic Acid Accession #: AB033100
Coding sequence: 32-2623 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
AGGTCTGGGG TCCTGAGGCT GCTGGCAGAC TATGGGTACA ACGGCCAGCA CAGCCCAGCA     60
GACGGTCTCG GCAGGCACCC CATTTGAGGG CCTACAGGGC AGTGGCACGA TGGACAGTCG    120
GCACTCCGTC AGCATCCACT CCTTCCAGAG CACTAGCTTG CATAACAGCA AGGCCAAGTC    180
CATCATCCCC AACAAGGTGG CCCCTGTTGT GATCACGTAC AACTGCAAGG AGGAGTTCCA    240
GATCCATGAT GAGCTGCTCA AGGCTCATTA CACGTTGGGC CGGCTCTCGG ACAACACCCC    300
TGAGCACTAC CTGGTGCAAG GAGCTCAGGC CTTACCCCAG GGCCGCTACT TCCTGGTGCG    360
GGATGTCACT GAGAAGATGG ATGTGCTGGG CACCGTGGGA AGCTGTGGGG CCCCCAACTT    420
CCGGCAGGTG CAGGGTGGGC TCACTGTGTT CGGCATGGGA CAGCCCAGCC TCTTAGGGTT    480
CAGGCGGGTC CTCCAGAAAC TCCAGAAGGA CGGACATAGG GAGTGTGTCA TCTTCTGTGT    540
GCGGGAGGAA MCTGTGCTTT TCCTGCGTGC AGATGAGGAC TTTGTGTCCT ACACACCTCG    600
AGACAAGCAG AACCTTCATG AGAACCTCCA GGGCCTTGGA CCCGGGGTCC GGGTGGAGAG    660
CCTGGAGCTG GCCATCCGGA AAGAGATCCA CGACTTTGCC CAGCTGAGCG AGAACACATA    720
CCATGTGTAC CATAACACCG AGGACCTGTG GGGGGAGCCC CATGCTGTGG CCATCCATGG    780
TGAGGACGAC TTGCATGTGA CGGAGGAGGT GTACAAGCGG CCCCTCTTCC TGCAGCCCAC    840
CTACAGGTAC CACCGCCTGC CCCTGCCCGA GCAAGGGAGT CCCCTGGAGG CCCAGTTGGA    900
CGCCTTTGTC AGTGTTCTCC GGGAGACCCC CAGCCTGCTG CAGCTCCGTG ATGCCCACGG    960
GCCTCCCCCA GCCCTCGTCT TCAGCTGCCA GATGGGCGTG GGCAGGACCA ACCTGGGCAT   1020
GGTCCTGGGC ACCCTCATCC TGCTTCACCG CAGTGGGACC ACCTCCCAGC CAGAGGCTGC   1080
CCCCACGCAG GCCAAGCCCC TGCCTATGGA GCAGTTCCAG GTGATCCAGA GCTTTCTCCG   1140
CATGGTGCCC CAGGGAAGGA GGATGGTGGA AGAGGTGGAC AGAGCCATCA CTGCCTGTGC   1200
CGAGTTGCAT GACCTGAAAG AAGTGGTCTT GGAAAACCAG AAGAAGTTAG AAGGTATCCG   1260
ACCGGAGAGC CCAGCCCAGG GAAGCGGCAG CCGACACAGC GTCTGGCAGA GGGCGCTGTG   1320
GAGCCTGGAG CGATACTTCT ACCTGATCCT GTTTAACTAC TACCTTCATG AGCAGTACCC   1380
GCTGGCCTTT GCCCTCAGTT TCAGCCGCTG GCTGTGTGCC CACCCTGAGC TGTACCGCCT   1440
GCCCGTGACG CTGAGCTCAG CAGGCCCTGT GGCTCCGAGG GACCTCATCG CCAGGGGCTC   1500
CCTACGGGAG GACGATCTGG TCTCCCCGGA CGCGCTCAGC ACTGTCAGAG AGATGGATGT   1560
GGCCAACTTC CGGCGGGTGC CCCGCATGCC CATCTACGGC ACGGCCCAGC CCAGCGCCAA   1620
GGCCCTGGGG AGCATCCTGG CCTACCTGAC GGACGCCAAG AGGAGGCTGC GGAAGGTTGT   1680
CTGGGTGAGC CTTCGGGAGG AGGCCGTGTT GGAGTGTGAC GGGCACACCT ACAGCCTGCG   1740
GTGGCCTGGG CCCCCTGTGG CTCCTGACCA GCTGGAGACC CTGGAGGCCC AGCTGAAGGC   1800
CCATCTAAGC GAGCCTCCCC CAGGCAAGGA GGGCCCCCTG ACCTACAGGT TCCAGACCTG   1860
CCTTACCATG CAGGAGGTCT TCAGCCAGCA CCGCAGGGCC TGTCCTGGCC TCACCTACCA   1920
CCGCATCCCC ATGCCGGACT TCTGTGCCCC CCGAGAGGAG GACTTTGACC AGCTGCTGGA   1980
GGCCCTGCGG GCCGCCCTCT CCAAGGACCC AGGCACTGGC TTCGTGTTCA GCTGCCTCAG   2040
CGGCCAGGGC CGTACCACAA CTGCGATGGT GGTGGCTGTC CTGGCCTTCT GGCACATCCA   2100
AGGCTTCCCC GAGGTGGGTG AGGAGGAGCT CGTGAGTGTG CCTGATGCCA AGTTCACTAA   2160
GGGTGAATTT CAGGTAGTAA TGAAGGTGGT GCAGCTGCTA CCCGATGGGC ACCGTGTGAA   2220
GAAGGAGGTG GACGCAGCGC TGGACACTGT CAGCGAGACC ATGACGCCCA TGCACTACCA   2280
CCTGCGGGAG ATCATCATCT GCACCTACCG CCAGGCGAAG GCAGCGAAAG AGGCGCAGGA   2340
AATGCGGAGG CTGCAGCTGC GGAGCCTGCA GTACTTGGAG CGCTATGTCT GCCTGATTCT   2400
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CTTCAACGCG TACCTCCACC TGGAGAAGGC CGACTCCTGG CAGAGGCCCT TCAGCACCTG  2460
GATGCAGGAG GTGGCATCGA AGGCTGGCAT CTACGAGATC CTTAACGAGC TGGGCTTCCC  2520
CGAGCTGGAG AGCGGGGAGG ACCAGCCCTT CTCCAGGCTG CGCTACCGGT GGCAGGAGCA  2580
GAGCTGCAGC CTCGAGCCCT CTGCCCCCGA GGACTTGCTG TAGGGGGCCT TACTCCCTGT  2640
CCCCCCACCC ACAGGGCCCC ACGCAGGCCT GGGGTGTCTG AGGTGCTCTT GGCTGGGAGC  2700
GGCCCTGAGG GGTGCTGGCC TTGAAATGAT TCCCCCACTT CCTGGAGAGA CTGAGCGGAG  2760
TTGGGAGCCT TTTTAGAAAG AACTTTTTAT AGGACAGGGA GACAGCACAG CCATCCCTTG  2820
CAAACCACCA AGGTGTGTGG CTGACCTCCA GGGAGGAGCA CTCACTGGAG TGCTCACAAG  2880
GTGCACACTG CTGTGTGTAC CTTGCAGACA GGCCGGCGTT CAGCCTCCAA GGGGCTCACT  2940
CCCCCAGTTG CCAAACACTG TGGATCTCTC TGTCCTCTTC TCCCCTCTCT CAGATTGGCC  3000
TGGCAGCCCC TGGCACAGAG CAGACCCGGC CACTGGTAGC TCCCCACTTC CTTACTCCTG  3060
CTGCTCTGCC ATTGCCGCTC CCCTTCTTGC TGCCCAAGCA CTGCCCTCGG GCGTCTGGCA  3120
GCCTGAGGTG GGTGGAGGGG ACAGTGTTCT GGATAGATCT ATTATGTGAA AGGCAGCTTC  3180
ACCCAGTTTT CTGGACTCTC ATGCCCCCAT CTCCGACCTG GGAGACTTCA GGAATGACAA  3240
CCTACCCAGC CTGGTGGGGC TGGCAGGATG GTGGAGGTTT CTCAAGGAGC TGGAGACTTC  3300
AGGGAGCCCC TCTCATGGGG AGGAAAGAGC TTCCAGGGGG CGAACGCAGC ACAGAGGAAG  3360
AGGCCTGCTC CACTTGTCTG GGAACCTGGG CAGGAGGCAC AGAGGAAGCC AAGGCCTGGA  3420
GCTGCAGGTC CCCCGGCATC TCTCTCTGTC CCGGCAGCCC AGGATGGCCT GGTGCCCCCA  3480
CCTGCTGCAG CAGGAGCCCC AAGGAGTGCT AGCTGAGGGT GGTTGCTGGG GTGGTCCTCA  3540
TGGACAGTGA GGTGTGCAAG GGTGCACTGA GGGTGGTGGG AGGGGATCAC CTGGGTTCCA  3600
GGCCATCCTT GCTGAGCATC TTTGAGCCTG CCTTCCGGTG GGAGCAGAAA AGGCCAGACC  3660
CTGCTGAGTT AGAGGCTGCT GGGATCCACT GTTTCCACAC AGCGGGAAGG CTGCTGGGAA  3720
CAGGTGGCAG AGAAGTGCCA TGTTTGCGTT GAGCCTTGCA GCTCTTCCAG CTGGGGACTG  3780
GTGCTTGCTG AAACCCAGGA GCTGAACAGT GAGGAGGCTG TCCACCTTGC TTGGCTCACT  3840
GGGACCAGSA AAGCCTGTCT TTGGTTAGGC TCGTGTACTT CTGCAGGAAA AAAAAAAAAG  3900
GATGTGTCAT TGGTCATGAT ATTTGAAAAG GGGAGGAGGC CGAAGTTGTT CCCATTTATC  3960
CAGTATTGGA AAATATTTGA CCCCCTTGGC TGAATTCTTT TGCAGAACTA CTGTGTGTCT  4020
GTTCACTACC TTTTCAGGTT TATTGTTTTT ATTTTTGCAT GAATTAAGAC GTTTTAATTT  4080
CTTTGCAGAC AAGGTCTAGA TGCGGAGTCA GAGATGGGAC TGAATGGGGA GGGATCCTTT  4140
GTGTTCTCAT GGTTGGCTCT GACTTTCAGC TGTGTTGGGA CCACTGGCTG ATCACATCAC  4200
CTCTCTGCCT CAGTTTCCCC ATCTGTAAAA TGGGAGAATA ATACTTGCCT ACCTACCTCA  4260
CRGGGGTGTT GTGAGGATTC ATTTGTGATT TTTTTTTTTT TTTTTGTACA GAGCTTTTAA  4320
GCATTAAAAA CAGCTAAATG TG
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Seq ID No: 171 Protein sequence:
Protein Accession #: BAA86588.1

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1          11         21         31         41         51
|          |          |          |          |          |
MGTTASTAQQ TVSAGTPFEG LQGSGTMDSR HSVSIHSFQS TSLHNSKAKS IIPNKVAPVV    60
ITYNCKEEFQ IHDELLKAHY TLGRLSDNTP EHYLVQGAQA LPQGRYFLVR DVTEKMDVLG   120
TVGSCGAPNF RQVQGGLTVF GMGQPSLLGF RRVLQKLQKD GHRECVIFCV REEVLFLRAD   180
EDFVSYTPRD KQNLHENLQG LGPGVRVESL ELAIRKEIHD FAQLSENTYH VYHNTEDLWG   240
EPHAVAIHGE DDLHVTEEVY KRPLFLQPTY RYHRLPLPEQ GSPLEAQLDA FVSVLRETPS   300
LLQLRDAHGP PPALVFSCQM GVGRTNLGMV LGTLILLHRS GTTSQPEAAP TQAKPLPMEQ   360
FQVIQSFLRM VPQGRRMVEE VDRAITACAE LHDLKEVVLE NQKKLEGIRP ESPAQGSGSR   420
HSVWQRALWS LERYFYLILF NYYLHEQYPL AFALSFSRWL CAHPELYRLP VTLSSAGPVA   480
PRDLIARGSL REDDLVSPDA LSTVREMDVA NFRRVPRMPI YGTAQPSAKA LGSILAYLTD   540
AKRRLRKVVW VSLREEAVLE CDGHTYSLRW PGPPVAPDQL ETLEAQLKAH LSEPPPGKEG   600
PLTYRFQTCL TMQEVFSQHR RACPGLTYHR IPMPDFCAPR EEDFDQLLEA LRAALSKDPG   660
TGFVFSCLSG QGRTTTAMVV AVLAFWHIQG FPEVGEEELV SVPDAKFTKG EFQVVMKVVQ   720
LLPDGHRVKK EVDAALDTVS ETMTPMHYHL REIIICTYRQ AKAAKEAQEM RRLQLRSLQY   780
LERYVCLILF NAYLHLEKAD SWQRPFSTWM QEVASKAGIY EILNELGFPE LESGEDQPFS   840
RLRYRWQEQS CSLEPSAPED LL
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Seq ID NO: 172 DNA sequence
Nucleic Acid Accession #: AK021806.1
Coding sequence: 1-645 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
ACTGTGCTTT TCCTGCGTGC AGATGAGGAC TTTGTGTCCT ACACACCTCG AGACAAGCAG    60
AACCTTCATG AGAACCTCCA GGGCCTTGGA CCCGGGGTCC GGGTGGAGAG CCTGGAGCTG   120
GCCATCCGGA AAGAGATCCA CGACTTTGCC CAGCTGAGCG AGAACACATA CCATGTGTAC   180
CATAACACCG AGGACCTGTG GGGGGAGCCC CATGCTGTGG CCATCCATGG TGAGGACGAC   240
TTGCATGTGA CGGAGGAGGT GTACAAGCGG CCCCTCTTCC TGCAGCCCAC CTACAGGTAC   300
CACCGCCTGC CCCTGCCCGA GCAAGGGAGT CCCCTGGAGG CCCAGTTGGA CGCCTTTGTC   360
AGTGTTCTCC GGGAGACCCC CAGCCTGCTG CAGCTCCGTG ATGCCCACGG GCCTCCCCCA   420
GCCCTCGTCT TCAGCTGCCA GATGGGCGTG GGCAGGACCA ACCTGGGCAT GGTCCTGGGC   480
ACCCTCATCC TGCTTCACCG CAGTGGGACC ACCTCCCAGC CAGAGGCTGC CCCCACGCAG   540
GCCAAGCCCC TGCCTATGGA GCAGTTCCAG GTGATCCAGA GCTTTCTCCG CATGGTGCCC   600
CAGGGAAGGA GGATGGTGGA AGAGGTGGAT AGATCTATTA TGTGAAAGGC AGCTTCACCC   660
AGTTTTCTGG ACTCTCATGC CCCCATCTCC GACCTGGGAG ACTTCAGGAA TGACAACCTA   720
CCCAGCCTGG TGGGGCTGGC AGGATGGTGG AGGTTTCTCA AGGAGCTGGA GACTTCAGGG   780
AGCCCCTCTC ATGGGGAGGA AAGAGCTTCC AGGGGGCGAA CGCAGCACAG AGGAAGAGGC   840
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CTGCTCCACT TGTCTGGGAA CCTGGGCAGG AGGCACAGAG GAAGCCAAGG CCTGGAGCTG    900
CAGGTCCCCC GGCATCTCTC TCTGTCCCGG CAGCCCAGGA TGGCCTGGTG CCCCCACCTG    960
CTGCAGCAGG AGCCCCAAGG AGTGCTAGCT GAGGGTGGTT GCTGGGGTGG TCCTCATGGA   1020
CAGTGAGGTG TGCAAGGGTG CACTGAGGGT GGTGGGAGGG GATCACCTGG GTTCCAGGCC   1080
ATCCTTGCTG AGCATCTTTG AGCCTGCCTT CCGGTGGGAG CAGAAAAGGC CAGACCCTGC   1140
TGAGTTAGAG GCTGCTGGGA TCCACTGTTT CCACACAGCG GGAAGGCTGC TGGGAACAGG   1200
TGGCAGAGAA GTGCCATGTT TGCGTTGAGC CTTGCAGCTC TTCCAGCTGG GGACTGGTGC   1260
TTGCTGAAAC CCAGGAGCTG AACAGTGAGG AGGCTGTCCA CCTTGCTTGG CTCACTGGGA   1320
CCAGGAAAGC CTGTCTTTGG TTAGGCTCGT GTACTTCTGC AGGAAAAAAA AAAAAGGATG   1380
TGTCATTGGT CATGATATTT GAAAAGGGGA GGAGGCCGAA GTTGTTCCCA TTTATCCAGT   1440
ATTGGAAAAT ATTTGACCCC CTTGGCTGAA TTCTTTTGCA GAACTACTGT GTGTCTGTTC   1500
ACTACCTTTT CAGGTTTATT GTTTTTATTT TTGCATGAAT TAAGACGTTT TAATTTCTTT   1560
GCAGACAAGG TCTAGATGCG GAGTCAGAGA TGGGACTGAA TGGGGAGGGA TCCTTTGTGT   1620
TCTCATGGTT GGCTCTGACT TTCAGCTGTG TTGGGACCAC TGGCTGATCA CATCACCTCT   1680
CTGCCTCAGT TTCCCCATCT GTAAAATGGG AGAATAATAC TTGCCTACCT ACCTCACGGG   1740
GGTGTTGTGA GGATTCATTT GTGATTTTTT TTTTTTTTTT TGTACAGAGC TTTTAAGCAT   1800
TAAAAACAGC TAAATGTG
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Seq ID No: 173 Protein sequence:

Protein Accession #: AK021806.1

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1          11         21         31         41         51
|          |          |          |          |          |
TVLFLRADED FVSYTPRDKQ NLHENLQGLG PGVRVESLEL AIRKEIHDFA QLSENTYHVY     60
HNTEDLWGEP HAVAIHGEDD LHVTEEVYKR PLFLQPTYRY HRLPLPEQGS PLEAQLDAFV    120
SVLRETPSLL QLRDAHGPPP ALVFSCQMGV GRTNLGMVLG TLILLHRSGT TSQPEAAPTQ    180
AKPLPMEQFQ VIQSFLRMVP QGRRMVEEVD RSIM
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Seq ID NO: 174 DNA sequence

Nucleic Acid Accession #: NM_016580.2

Coding sequence: 1212-4766 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
GGGAAGCGGG AGGAGAGCCA CACGGTCAAG TTGCACAGGT TCTTGCAGCT TCTGGAATCA     60
AGACCATGGG CACCCTCATA AGTCAGTGTG GGCAGGGACT GCCCCAGGGC CAATCCAAGA    120
TCCAGAGGTA GCCATAGGGT GTGACAAGTT GTGCAGATTA CAACACTCAC CCCTTGCAAT    180
AACGTCACTG CCTGTGACTC GGGGCCAGGC CCAGGCCAAA GCCCTTCCTA CATCATTTCG    240
TTTAATCCTC ACAGTTTCCT GCTGAAAGGG CTACTATTCT TACTCCCATC CCCACTCTAC    300
AGATGAGGTA ATGGAGGCCC AGGAAAGTTA AGTGACTTGT CCCAGATGAC ACCGCTGGTA    360
AGTTGCAAAG TCAGAATTTG AACTCAGGCA GTTTACCTCT GATGGCTGCT CTGTTAATCA    420
CAGCTGCTTT CCAGTGAGAC AAAAACGGGT GATCAGGGCA GAGTCAAGAC AGAGAGGTAA    480
ACAAGATTGG GAAAAAGACA GGAATGAGAG GGGAACAATG GGGGAAAAGA TAGGAACAAA    540
GAGAGTTGGG GAAGGGGAGA GAAACAGGAA ACATGACTTG CCCGGGAGGG GCATCAGTCC    600
ACGTGCAAGC AGGTGGAGGC TCAAGTTTTC TGCTCACTTG GTGATGCAGA GGCTCCCTTT    660
CCCTCAGCAG CCGCCTTGCT GCGTGGACAG CAGCTTCCCA TCTGGCCTGT CCCCGGAGCC    720
CCGGCCTCAT CCTCCTCAGC GGCAGGCCAC TTAGCTTCAC AGGAAATGCT CTTTCTCTAA    780
TTGGCATTGA AACTCACAGC CCTCCCTTTT CCTGTAGGTG GGGTTTCCAT AGGAAAAAGC    840
TGCTTCTCTG TTTCCCCAGC CTAGCAACTG TTTGGCAGTC AGAGTCCCAC ATCCTGCTCA    900
ACTGGGTCAG GTCCCTCTTA GACCAGCTCT TGTCCATCAT TTGCTGAAGT GGACCAACTA    960
GTTCCCCAGT AGGGGGTCTC CCCTGGCAAT TCTTGATCGG CGTTTGGACA TCTCAGATCG   1020
CTTCCAATGA AGATGGCCTT GCCTTGGGGT CCTGCTTGTT TCATAATCAT CTAACTATGG   1080
GACAAGGTTG TGCCGGCAGC TCTGGGGGAA GGAGCACGGG GCTGATCAAG CCATCCAGGA   1140
AACACTGGAG GACTTGTCCA GCCTTGAAAG AACTCTAGTG GTTTCTGAAT CTAGCCCACT   1200
TGGCGGTAAG CATGATGCAA CTTCTGCAAC TTCTGCTGGG GCTTTTGGGG CCAGGTGGCT   1260
ACTTATTTCT TTTAGGGGAT TGTCAGGAGG TGACCACTCT CACGGTGAAA TACCAAGTGT   1320
CAGAGGAAGT GCCATCTGGT ACAGTGATCG GGAAGCTGTC CCAGGAACTG GGCCGGGAGG   1380
AGAGGCGGAG GCAAGCTGGG GCTGCCTTCC AGGTGTTGCA GCTGCCTCAG GCGCTCCCCA   1440
TTCAGGTGGA CTCTGAGGAA GGCTTGCTCA GCACAGGCAG GCGGCTGGAT CGAGAGCAGC   1500
TGTGCCGACA GTGGGATCCC TGCCTGGTTT CCTTTGATGT GCTTGCCACA GGGGATTTGG   1560
CTCTGATCCA TGTGGAGATC CAAGTGCTGG ACATCAATGA CCACCAGCCA CGGTTTCCCA   1620
AAGGCGAGCA GGAGCTGGAA ATCTCTGAGA GCGCCTCTCT GCGAACCCGG ATCCCCCTGG   1680
ACAGAGCTCT TGACCCAGAC ACAGGCCCTA ACACCCTGCA CACCTACACT CTGTCTCCCA   1740
GTGAGCACTT TGCCTTGGAT GTCATTGTGG GCCCTGATGA GACCAAACAT GCAGAACTCA   1800
TAGTGGTGAA GGAGCTGGAC AGGGAAATCC ATTCATTTTT TGATCTGGTG TTAACTGCCT   1860
ATGACAATGG GAACCCCCCC AAGTCAGGTA CCAGCTTGGT CAAGGTCAAC GTCTTGGACT   1920
CCAATGACAA TAGCCCTGCG TTTGCTGAGA GTTCACTGGC ACTGGAAATC CAAGAAGATG   1980
CTGCACCTGG TACGCTTCTC ATAAAACTGA CCGCCACAGA CCCTGACCAA GGCCCCAATG   2040
GGGAGGTGGA GTTCTTCCTC AGTAAGCACA TGCCTCCAGA GGTGCTGGAC ACCTTCAGTA   2100
TTGATGCCAA GACAGGCCAG GTCATTCTGC GTCGACCTCT AGACTATGAA AAGAACCCTG   2160
CCTACGAGGT GGATGTTCAG GCAAGGGACC TGGGTCCCAA TCCTATCCCA GCCCATTGCA   2220
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AAGTTCTCAT CAAGGTTCTG GATGTCAATG ACAACATCCC AAGCATCCAC GTCACATGGG  2280
CCTCCCAGCC ATCACTGGTG TCAGAAGCTC TTCCCAAGGA CAGTTTTATT GCTCTTGTCA  2340
TGGCAGATGA CTTGGATTCA GGACACAATG GTTTGGTCCA CTGCTGGCTG AGCCAAGAGC  2400
TGGGCCACTT CAGGCTGAAA AGAACTAATG GCAACACATA CATGTTGCTA ACCAATGCCA  2460
CACTGGACAG AGAGCAGTGG CCCAAATATA CCCTCACTCT GTTAGCCCAA GACCAAGGAC  2520
TCCAGCCCTT ATCAGCCAAG AAACAGCTCA GCATTCAGAT CAGTGACATC AACGACAATG  2580
CACCTGTGTT TGAGAAAAGC AGGTATGAAG TCTCCACGCG GGAAAACAAC TTACCCTCTC  2640
TTCACCTCAT TACCATCAAG GCTCATGATG CAGACTTGGG CATTAATGGA AAAGTCTCAT  2700
ACCGCATCCA GGACTCCCCA GTTGCTCACT TAGTAGCTAT TGACTCCAAC ACAGGAGAGG  2760
TCACTGCTCA GAGGTCACTG AACTATGAAG AGATGGCCGG CTTTGAGTTC CAGGTGATCG  2820
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ATGCCAATGA TAATGCCCCA GAGGTGGTCC AGCCTGTGCT CAGCGATGGA AAAGCCAGCC  2940
TCTCCGTGCT TGTGAATGCC TCCACAGGCC ACCTGCTGGT GCCCATCGAG ACTCCCAATG  3000
GCTTGGGCCC AGCGGGCACT GACACACCTC CACTGGCCAC TCACAGCTCC CGGCCATTCC  3060
TTTTGACAAC CATTGTGGCA AGAGATGCAG ACTCGGGGGC AAATGGAGAG CCCCTCTACA  3120
GCATCCGCAG TGGAAATGAA GCCCACCTCT TCATCCTCAA CCCTCATACG GGGCAGCTGT  3180
TCGTCAATGT CACCAATGCC AGCAGCCTCA TTGGGAGTGA GTGGGAGCTG GAGATAGTAG  3240
TAGAGGACCA GGGAAGCCCC CCCTTACAGA CCCGAGCCCT GTTGAGGGTC ATGTTTGTCA  3300
CCAGTGTGGA CCACCTGAGG GACTCAGCCC GCAAGCCTGG GGCCTTGAGC ATGTCGATGC  3360
TGACGGTGAT CTGCCTGGCT GTACTGTTGG GCATCTTCGG GTTGATCCTG GCTTTGTTCA  3420
TGTCCATCTG CCGGACAGAA AAGAAGGACA ACAGGGCCTA CAACTGTCGG GAGGCCGAGT  3480
CCACCTACCG CCAGCAGCCC AAGAGGCCCC AGAAACACAT TCAGAAGGCA GACATCCACC  3540
TCGTGCCTGT GCTCAGGGGT CAGGCAGGTG AGCCTTGTGA AGTCGGGCAG TCCCACAAAG  3600
ATGTGGACAA GGAGGCGATG ATGGAAGCAG GCTGGGACCC CTGCCTGCAG GCCCCCTTCC  3660
ACCTCACCCC GACCCTGTAC AGGACGCTGC GTAATCAAGG CAACCAGGGA GCACCGGCGG  3720
AGAGCCGAGA GGTGCTGCAA GACACGGTCA ACCTCCTTTT CAACCATCCC AGGCAGAGGA  3780
ATGCCTCCCG GGAGAACCTG AACCTTCCCG AGCCCCAGCC TGCCACAGGC CAGCCACGTT  3840
CCAGGCCTCT GAAGGTTGCA GGCAGCCCCA CAGGGAGGCT GGCTGGAGAC CAGGGCAGTG  3900
AGGAAGCCCC ACAGAGGCCA CCAGCCTCCT CTGCAACCCT GAGACGGCAG CGACATCTCA  3960
ATGGCAAAGT GTCCCCTGAG AAAGAATCAG GGCCCCGTCA GATCCTGCGG AGCCTGGTCC  4020
GGCTGTCTGT GGCTGCCTTC GCCGAGCGGA ACCCCGTGGA GGAGCTCACT GTGGATTCTC  4080
CTCCTGTTCA GCAAATCTCC CAGCTGCTGT CCTTGCTGCA TCAGGGCCAA TTCCAGCCCA  4140
AACCAAACCA CCGAGGAAAT AAGTACTTGG CCAAGCCAGG AGGCAGCAGG AGTGCAATCC  4200
CAGACACAGA TGGCCCAAGT GCAAGGGCTG GAGGCCAGAC AGACCCAGAA CAGGAGGAAG  4260
GGCCTTTGGA TCCTGAAGAG GACCTCTCTG TGAAGCAACT GCTAGAAGAA GAGCTGTCAA  4320
GTCTGCTGGA CCCCAGCACA GGTCTGGCCC TGGACCGGCT GAGCGCCCCT GACCCGGCCT  4380
GGATGGCGAG ACTCTCTTTG CCCCTCACCA CCAACTACCG TGACAATGTG ATCTCCCCGG  4440
ATGCTGCAGC CACGGAGGAG CCAAGGACCT TCCAGACGTT CGGCAAGGCA GAGGCACCAG  4500
AGCTGAGCCC AACAGGCACG AGGCTGGCCA GCACCTTTGT CTCGGAGATG AGCTCACTGC  4560
TGGAGATGCT GCTGGAACAG CGCTCCAGCA TGCCCGTGGA GGCCGCCTCC GAGGCGCTGC  4620
GGCGGCTCTC GGTCTGCGGG AGGACCCTCA GTTTAGACTT GGCCACCAGT GCAGCCTCAG  4680
GCATGAAAGT GCAAGGGGAC CCAGGTGGAA AGACGGGGAC TGAGGGCAAG AGCAGAGGCA  4740
GCAGCAGCAG CAGCAGGTGC CTGTGAACAT ACCTCAGACG CCTCTGGATC CAAGAACCAG  4800
GGGCCTGAGG ATCTGTGGAC AAGAGCTGGT TTCTAAAATC TTGTAACTCA CTAGCTAGCG  4860
GCGGCCTGAG AACTTTAGGG TGACTGATGC TACCCCCACA GAGGAGGCAA GAGCCCCAGG  4920
ACTAACAGCT GACTGACCAA AGCAGCCCCT TGTAAGCAGC TCTGAGTCTT TTGGAGGACA  4980
GGGACGGTTT GTGGCTGAGA TAAGTGTTTC CTGGCAAAAC ATATGTGGAG CACAAAGGGT  5040
CAGTCCTCTG GCAGAACAGA TGCCACGGAG TATCACAGGC AGGAAAGGGT GGCCTTCTTG  5100
GGTAGCAGGA GTCAGGGGGC TGTACCCTGG GGGTGCCAGG AAATGCTCTC TGACCTATCA  5160
ATAAAGGAAA AGCAGTGATT CAAAAAAAAA AAAAAAAAAA AAAAAAAAAA
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Seq ID No: 175 Protein sequence:
Protein Accession #: NP_057664.1

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1          11         21         31         41         51
|          |          |          |          |          |
MMQLLQLLLG LLGPGGYLFL LGDCQEVTTL TVKYQVSEEV PSGTVIGKLS QELGREERRR    60
QAGAAFQVLQ LPQALPIQVD SEEGLLSTGR RLDREQLCRQ WDPCLVSFDV LATGDLALIH   120
VEIQVLDIND HQPRFPKGEQ ELEISESASL RTRIPLDRAL DPDTGPNTLH TYTLSPSEHF   180
ALDVIVGPDE TKHAELIVVK ELDREIHSFF DLVLTAYDNG NPPKSGTSLV KVNVLDSNDN   240
SPAFAESSLA LEIQEDAAPG TLLIKLTATD PDQGPNGEVE FFLSKHMPPE VLDTFSIDAK   300
TGQVILRRPL DYEKNPAYEV DVQARDLGPN PIPAHCKVLI KVLDVNDNIP SIHVTWASQP   360
SLVSEALPKD SFIALVMADD LDSGHNGLVH CWLSQELGHF RLKRTNGNTY MLLTNATLDR   420
EQWPKYTLTL LAQDQGLQPL SAKKQLSIQI SDINDNAPVF EKSRYEVSTR ENNLPSLHLI   480
TIKAHDADLG INGKVSYRIQ DSPVAHLVAI DSNTGEVTAQ RSLNYEEMAG FEFQVIAEDS   540
GQPMLASSVS VWVSLLDAND NAPEVVQPVL SDGKASLSVL VNASTGHLLV PIETPNGLGP   600
AGTDTPPLAT HSSRPFLLTT IVARDADSGA NGEPLYSIRS GNEAHLFILN PHTGQLFVNV   660
TNASSLIGSE WELEIVVEDQ GSPPLQTRAL LRVMFVTSVD HLRDSARKPG ALSMSMLTVI   720
CLAVLLGIFG LILALFMSIC RTEKKDNRAY NCREAESTYR QQPKRPQKHI QKADIHLVPV   780
LRGQAGEPCE VGQSHKDVDK EAMMEAGWDP CLQAPFHLTP TLYRTLRNQG NQGAPAESRE   840
VLQDTVNLLF NHPRQRNASR ENLNLPEPQP ATGQPRSRPL KVAGSPTGRL AGDQGSEEAP   900
QRPPASSATL RRQRHLNGKV SPEKESGPRQ ILRSLVRLSV AAFAERNPVE ELTVDSPPVQ   960
QISQLLSLLH QGQFQPKPNH RGNKYLAKPG GSRSAIPDTD GPSARAGGQT DPEQEEGPLD  1020
PEEDLSVKQL LEEELSSLLD PSTGLALDRL SAPDPAWMAR LSLPLTTNYR DNVISPDAAA  1080
TEEPRTFQTF GKAEAPELSP TGTRLASTFV SEMSSLLEML LEQRSSMPVE AASEALRRLS  1140
```

```
VCGRTLSLDL ATSAASGMKV QGDPGGKTGT EGKSRGSSSS SRCL
```

Seq ID NO: 176 DNA sequence
Nucleic Acid Accession #: AL109712.1
Coding sequence: 2-128 (underlined sequences correspond to start and stop codons)

```
1          11         21         31         41         51
|          |          |          |          |          |
GAGTCTCTTT GGGCCAGCCG GGCTGCTGCA GACAGACAGG AAGCACGCCT GACGCTCCTC     60
TACCCTCGGG CAGCACAGCG GGGCTGGGAC TCACTCTAGC TTGCCCAGCA ACTTGCTTTC    120
CTGTGTGAAC TCTGGCAGGC TGCCCTCTCT GTGCAAAGCT GCCACTGGGG CCTGCTCAGG    180
GTGGCCTGGA ACTTGGAGGT GGGCAGTCAG GGCCTAGGAT GGGCCTGTGT CACCAGGGCA    240
TGTGCCCTTG GGCCAGTTAC TTCCTCTCAG AGCCTTGGGC TCCTCCTCTG AGGATGGGGC    300
TTGTTGGTGT GAAATGAGGT GAGCATGTTG AGTTGGGGAG CAGCAGGACA CGCACCTGCA    360
GGCAGCCGCC CTGGCCACGC TCCCTCCCTA CCTTCCGAGT CCTGGGACAG ACACAGTAGA    420
GCACAGCGGG CCAGCCTGCT CTCTTCTCTG TCTACTTTTT GCAGAAGAGT CAACAGATAC    480
AACAGGCCCA GGGAGGTGCC CCTGGGGGCC CCAGTCCCCA TCACTCCAAG GGGCAGTCCT    540
GCAAGTGACA AGGTGGGCCC AATCCCTGTG GAACAGGTCT CTGAGGACCA CAGAGTGGGG    600
CCCCAGGGAA AGCTGGGAGC CGAGCTAGAG GCAGGCAGCA AGTAAGGGCA AAGCTGTGCC    660
CCTGCCCGGA AGACCTTCCT GCCCCCAGAA CCCGACCCTC CGCAGATAGC CCTCCCTGGG    720
CAGCAGCCCC CCAGCTTCCA AGGCCCGTGC CTCACCAGAC GCCATGCTCT CACGGACTTG    780
TTTGCTGCTC TGTACCCTGC AGATCTGCCC CAGAGGAGCA GGTGAAAAGC CGCGCCTGCC    840
GAGGTGCTGT GGCGGTGGAG TTTTGGGCAG AGGAGTGGGG GGAAGAGTTT CTCACTTTTA    900
AGATTCTCCA AATCCAAGAT GAAGTCATGC TGTGCTTTGG AATGGTAGAT GCTCATTTAT    960
GTAAAATCAT AATAAATGTT ACACAAACTG TTAAAAAAAA AAAAAAAAAA AAAAAA
```

Seq ID No: 177 Protein sequence:
Protein Accession #: AL109712.1

```
1          11         21         31         41         51
|          |          |          |          |          |
VSLGQPGCCR QTGSTPDAPL PSGSTAGLGL TLACPATCFP V
```

Seq ID NO: 178 DNA sequence
Nucleic Acid Accession #: none found
Coding sequence: 3-107(underlined sequences correspond to start and stop codons)

```
1          11         21         31         41         51
|          |          |          |          |          |
AATGGAGCAC TCCAAAGAAC GATTTGACCA ATAGCATTTC TTCTCTGGGG GTTGTATTTC     60
AAAGCATGCA ACTCTCCAGG GAACCAGAAC TAAATTGCTT AAAATGAAGT CATTCCTCAG    120
ATTAACTTCC TCAGATAAAG TGTCAGCGGT CTGCAGAAAC GAAGAAGACA AAACTGAGAT    180
TATCACTCAT AATTCTCTTA CTTACTATGT CAGTGAAACA ATGAGTTTGC ATTTTTGCAA    240
TCCTAGAACA TTCTTCATTA GCCCTGGGTC ATGACCTCTT CCAGTTAATT CTCTTTCACA    300
CCTTTAGGAA AGATTTAAGA TGAACCTTCA ATAGGATATT AACATAACTC ATAGCCAATA    360
CCACAGCTGC CTTTCAAATT AATGAGGTTA ATTGTTCTCC AGCAAACATG AGTTTGTCTT    420
TGGCATTTTA AATGCTTCCC ATTGATCTGA CATTTTGCTG TTTCAAGTTT TAAAGGGCTC    480
AAATCAAAGA CTATTGATAA CTGAGCAAAG AGCGAAGATC CAGAAATACG AAAACATTGT    540
CTTTTTTTTT CCATGAAAAA CAATCATAGC CTTTTGAATT CAATCGAAGT TTCTACATTA    600
GCCATCTAAG ACTTATTTAA TTATTTCTGT TCTCAGTCAA GCTAATTCAA GTGAATGAAC    660
AGTATTGACT TTTAAAATCT TTTTTAAATT TTTTTAAATC TTTAGTTTAT TAAGTTTGTA    720
GAAAAGCTCT GGGGCCATGA CCACTTACGT AAATGTTTCA GTTTAAAAAC AAAAGATTCA    780
GGCCTCTAAT TTGAGCCAAA TCCAGGTGAT CTTGTTTGAA ATTTTTGATG AATTTGAAAA    840
GATGAAAGTG GAACTTTTAA CATTCATGTT CCCCAAATTT TTCACTGGGA AGGGATGCTA    900
ATTGCCTACT TAAGATATAA GTTCAAGAAT AACATTTTCA TAGAAAATTC AGAAAACTGC    960
TTGACACAGC AGTGACATAG TTAGATGTGG CTCAGATGCC TTCCAAACCT GAGGGTCCCC   1020
AAAGATTTCT TTACCAGTTG TTTTTAACTA TGAATCTTAA TCTTGTTCAT TCCCCTGCCA   1080
AAACAAATTT AAAAG
```

Seq ID No: 179 Protein sequence:
Protein Accession #: none found

```
1          11         21         31         41         51
|          |          |          |          |          |
WSTPKNDLTN SISSLGVVFQ SMQLSREPEL NCLK
```

Seq ID NO: 180 DNA sequence
Nucleic Acid Accession #: none found
Coding sequence: 2-176 (underlined sequences correspond to start and stop codons)

```
1          11         21         31         41         51
|          |          |          |          |          |
```

```
CCGGGTGGGG CCTCGGGATG CAGGCGCCGG TGCCCGGGCC CCTGGGCCTG CTGGACCCCG    60
CAGAAGGGCT TTCGAGGAGG AAGAAGACGT CGCTCTGGTT TGTGGGGTCT CTGCTGCTGG   120
TGTCCGTCCT CATAGTCACC GTCGGGCTGG CTGCATCAGC AGGACGGAGA ATGTGACCGT   180
TGGGGGCTAC TACCCAGGGA TCATTCTCGG CTTTGGATCT TTCTTAGGAA TTATTGGCAT   240
CAACTTGGTG GAGAATAGAA GGCAAATGCT GGTGGCAGCG ATCGTGTTTA TCAGTTTTGG   300
CGTGGTGGCC GCCTTCTGCT GCGCCATCGT GGACGGCGTA TTTGCAGCAC AGCACATTGA   360
ACCGAGGCCC CTCACCACGG GAAGATGCCA GTTTTACTCC AGTGGGGTGG GGTACTTGTA   420
CGATGTCTAC CAGACAGAGG TGAGCAGGAG CACTGAGATT CATGTGGGTT TTGCTCAGCT   480
AACCCCGCCG ACCCCACGCG GTTTTCCCTG CACATAGGCG TGGTCTGAAT ATTTGGATTC   540
TAATAGTTCC TGGGGGTCAC CCCTGCAGCT GGTGAACCGT TGATGCCCCC TGTGTAAGGG   600
ACCTTGACAT TTCGATGTGC TGTATTTCAC TCTGGAGTCA GAGTTCTGGA CTTGCTTCAT   660
TAAATCACAA CAGTCTCAGA AAACAACCGC ACCACCCCGC AATCCCACCA AAGGGGCGCG   720
CCGTCCCTAA GAGTTATCCC
```

Seq ID No: 181 Protein sequence:
Protein Accession #: none found

```
1          11         21         31         41         51
|          |          |          |          |          |
RVGPRDAGAG ARAPGPAGPR RRAFEEEEDV ALVCGVSAAG VRPHSHRRAG CISRTENV
```

Seq ID NO: 182 DNA sequence
Nucleic Acid Accession #: AK001579.1
Coding sequence: 1150-2637(underlined sequences correspond to start and stop codons)

```
1          11         21         31         41         51
|          |          |          |          |          |
TTTTCTCTGC TTTTCGCTAC CCCGGTCACT CTCATTTCTC TCCCCTATTC CTTGTCTCTT    60
CCCCCATCCC CCTTTCTCCT GTCCTCCCCC TGCCTCTACA GTGGTTCTCC CCGCTGAGCT   120
GCCACCAGCT GCTGGGCCCC GGGCTGCTGC GGCTGGGCCG CCTATGGCTG CGGTCCCCCT   180
CCCATACAGC CCCGGCCCCT GGTCTCTGGC TGTCAGGGTT TGGCCTCCTT CGTGGTGACC   240
ACCTCTTCCT GTGCTCAGCG CCGGGCCCAG GCCCCCCAGC CCCTGAGGAC ATGGTGCATC   300
TGCGGCGGCT ACAGGAGATC AGTGTGGTTT CTGCAGCTGA CACCCCAGAT AAGAAAGAGC   360
ATTTGGTCCT GGTGGAGACA GGAAGGACCC TGTATCTGCA AGGAGAGGGC CGGCTGGACT   420
TCACGGCATG GAACGCAGCC ATTGGGGGCG CGGCTGGTGG GGGCGGCACA GGGCTGCAGG   480
AGCAGCAGAT GAGCCGGGGT GACATCCCCA TCATCGTGGA TGCCTGCATC AGTTTTGTTA   540
CCCAGCATGG GCTCCGGCTG GAAGGTGTAT ACCGGAAAGG GGGCGCTCGT GCCCGCAGCC   600
TGAGACTCCT GGCTGAGTTC CGTCGGGATG CCCGGTCGGT GAAGCTCCGA CCAGGGGAGC   660
ACTTTGTGGA GGATGTCACT GACACACTCA AACGCTTCTT TCGTGAGCTC GATGACCCTG   720
TGACCTCTGC ACGGTTGCTG CCTCGCTGGA GGGAGGCTGC TGGTATTCCT AAGATCCCTG   780
AGAGCCAAGG CCCAACCAGG ATCTCTGCCT TCCCCCACCA GAATCCATGG TTTGGCAGCC   840
CTCCGCCCCA TCACTTCCCA CCCTGGGGGA TCATCCAGAG ACTTGGCTCA GGGGGAGGTG   900
GGAAGGGGGC AGAGACACAT CCATCCTGCA TTTGTGCCTA AAAATCCCTC CCTCTGTACC   960
AGCTGCCACT CTTTCTTCCC GGGTCCTCCC CAACCCTCCT CCATTCCATC CCCAGAGCTG  1020
CCCCAGAAGA ATCAGCGCCT GGAGAAATAT AAAGATGTGA TTGGCTGCCT GCCGCGGGTC  1080
AACCGCCGCA CACTGGCCAC CCTCATTGGG CATCTCTATC GGGTGCAGAA ATGTGCGGCT  1140
CTAAACCAGA TGTGCACGCG GAACTTGGCT CTGCTGTTTG CACCCAGCGT GTTCCAGACG  1200
GATGGGCGAG GGGAGCACGA GGTGCGAGTG CTGCAAGAGC TCATTGATGG CTACATCTCT  1260
GTCTTTGATA TCGATTCTGA CCAGGTAGCT CAGATTGACT TGGAGGTCAG TCTTATCACC  1320
ACCTGGAAGG ACGTGCAGCT GTCTCAGGCT GGAGACCTCA TCATGGAAGT TTATATAGAG  1380
CAGCAGCTCC CAGACAACTG TGTCACCCTG AAGGTGTCCC CAACCCTGAC TGCTGAGGAG  1440
CTGACTAACC AGGTACTGGA GATGCGGGGG ACAGCAGCTG GGATGGACTT GTGGGTGACT  1500
TTTGAGATTC GCGAGCATGG GGAGCTGGAG CGGCCACTGC ATCCCAAGGA AAAGGTCTTA  1560
GAGCAGGCTT TACAATGGTG CCAGCTCCCA GAGCCCTGCT CAGCTTCCCT GCTCTTGAAA  1620
AAAGTCCCCC TGGCCCAAGC TGGCTGCCTC TTCACAGGTA TCCGACGTGA GAGCCCACGG  1680
GTGGGGCTGT TGCGGTGTCG TGAGGAGCCA CCTCGCTTGC TGGGAAGCCG CTTCCAGGAG  1740
AGGTTCTTTC TGCTGCGTGG CCGCTGCCTG CTGCTGCTCA AGGAGAAGAA AAGCTCTAAA  1800
CCAGAACGGG AGTGGCCTTT GGAAGGTGCC AAGGTCTACC TGGGAATCCG CAAGAAGTTA  1860
AAGCCCCCAA CACCGTGGGG CTTCACATTG ATACTAGAGA AGATGCACCT CTACTTGTCC  1920
TGCACTGACG AGGATGAAAT GTGGGATTGG ACCACCAGCA TCCTTAAAGC CCAGCACGAT  1980
GACCAGCAGC CAGTGGTCTT ACGACGCCAT TCCTCCTCTG ACCTTGCCCG TCAGAAGTTT  2040
GGCACTATGC CTTTGCTGCC TATCCGTGGG GATGACAGTG GAGCCACCCT CCTCTCTGCC  2100
AATCAGACCC TGCGGCGACT ACACAACCGG AGGACCCTGT CCATGTTCTT TCCAATGAAG  2160
TCATCCCAGG GGTCTGTGGA GGAGCAAGAG GAGCTGGAGG AGCCTGTGTA CGAGGAGCCA  2220
GTGTATGAGG AAGTAGGGGC CTTCCCTGAG TTGATCCAGG ACACTTCTAC CTCCTTCTCC  2280
ACCACACGGG AGTGGACAGT GAAGCCAGAG AACCCCCTCA CCAGCCAGAA GTCATTGGAT  2340
CAACCCTTTC TCTCCAAGTC AAGCACCCTT GGCCAGGAGG AGAGGCCACC TGAGCCCCCT  2400
CCAGGCCCCC CTTCAAAGAG CAGTCCCCAG GCACGGGGGT CCCTAGAGGA ACAGCTGCTC  2460
CAGGAGCTCA GCAGCCTCAT CCTGAGGAAA GGAGAGACCA CTGCAGGCCT GGGAAGTCCT  2520
TCCCAGCCAT CCAGCCCCCA ATCCCCCAGC CCCACTGGCC TTCCAACACA GACACCTGGC  2580
TTCCCCACCC AACCCCCATG CACTTCCAGT CCACCCTCCA GCCAGCCCCT CACATGACCC  2640
TAGGACCAGC AGTCTGAGAG GGTAGGTACC AGAAGACCCA GAAACTCTTA TCGTGGCACT  2700
GTTGCAGCTT CCTCTGCCCT GGCTGGAAAG ACTCCAGAAT CCAGTGTGGT GCTGTGGAAG  2760
GAGCACTGGA CTAAAGGCTT CAGTGGCTGC GTGTCCCAGG ACAGGTCATG GCCCCTCTCT  2820
GGGCCCAGCC CATTTATCTA TACCATGAGG TAACTGAAGT AAGGAGAGCA GTGAATGTCA  2880
```

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AACTGTGTTT CTTAGAGCCA TAAGCCCCAC ATATTATCCC TGAACAAGGG CAGCTCCTGC  2940
TTTATATATT TGATACGTAG GGGTTCCATG AGAGATTTTG GGTTTTAAAG GAATGGTTTT  3000
ACTGCATTAA AGAAAAAAAA TGCTTTGGAA ACCAGAGGCC TGGGTGATGT TAAAGTCTAT  3060
CCTGTCCCAC TTCCTACATT CTGGGACTAC CGTGAAGCCT GGAGTAGGGA GAGCGAGTTT  3120
GGGAGCTGGG ACTCGGGGAG TCAAAAATAG ATGAGTAATT GTCAATAAAC CTGGGAACC
```

Seq ID No: 183 Protein sequence:
Protein Accession #: AK001579.1

```
1          11         21         31         41         51
|          |          |          |          |          |
MSLTHSNASF VSSMTLPLHG CCLAGGRLLV FLRSLRAKAQ PGSLPSPTRI HGLAALRPIT    60
SHPGGSSRDL AQGEVGRGQR HIHPAFVPKN PSLCTSCHSF FPGPPQPSSI PSPELPQKNQ   120
RLEKYKDVIG CLPRVNRRTL ATLIGHLYRV QKCAALNQMC TRNLALLFAP SVFQTDGRGE   180
HEVRVLQELI DGYISVFDID SDQVAQIDLE VSLITTWKDV QLSQAGDLIM EVYIEQQLPD   240
NCVTLKVSPT LTAEELTNQV LEMRGTAAGM DLWVTFEIRE HGELERPLHP KEKVLEQALQ   300
WCQLPEPCSA SLLLKKVPLA QAGCLFTGIR RESPRVGLLR CREEPPRLLG SRFQERFFLL   360
RGRCLLLLKE KKSSKPEREW PLEGAKVYLG IRKKLKPPTP WGFTLILEKM HLYLSCTDED   420
EMWDWTTSIL KAQHDDQQPV VLRRHSSSDL ARQKFGTMPL LPIRGDDSGA TLLSANQTLR   480
RLHNRRTLSM FFPMKSSQGS VEEQEELEEP VYEEPVYEEV GAFPELIQDT STSFSTTREW   540
TVKPENPLTS QKSLDQPFLS KSSTLGQEER PPEPPPGPPS KSSPQARGSL EEQLLQELSS   600
LILRKGETTA GLGSPSQPSS PQSPSPTGLP TQTPGFPTQP PCTSSPPSSQ PLT
```

Seq ID NO: 184 DNA sequence
Nucleic Acid Accession #: none found
Coding sequence: 1-81 (underlined sequences correspond to start and stop codons)

```
1          11         21         31         41         51
|          |          |          |          |          |
GTAGAGTTAG TGTCAATGTG CTTAGAATAT ACCAAATTCA TAAACATTTT CTCTAAAAAA    60
GTATTAAGCT TAAAAAGTTA ATTCAGTTTA AGGAATATAA ACCAAATTAT TTTATATTTG   120
AATCTCAACA TAAGAAGTCA AAATGTAATG CTGCCAGATA ACAATATCAA AGGTATTTTT   180
CTTTCTCTAT AATTTCATCA GTATGTCCTC TCCCTTTTCT CCTATTTGTC AAATTTTAGC   240
AACCCTAACT CTGCTAATTA TAAGCTAGGC AAGTAATCTT GGACAAGTTA TTTGACCTCT   300
CACTGCACCA GCTTTGTTAT CTGTAAAATG ATGATAATAC CAACACCTTC TTCTTGGGGT   360
ACTGAAGATG AGAGAACATG ATATGTGTAA AGTGCCTTCC ACAATACCCA GAACATAGCA   420
AACATGTAAT GAATGTAGTA ATAGTAATTA TTTTATTTTC TTTTGATTCA GTTGGGACTA   480
TGTTCAGCTG TAACAGAATA CCCAAAATAA CAGTTTTAAA CAAATTAAAG TTTTGTTGTG   540
AAGTTTTGTT ACGAATTCAG ACAATCCAGG GCTTTTATAG ATGCACCAGG ATCAGCAGGT   600
ACAAAGGCAT CTTTCCTGAT TTCTGCCAGT CTCAATGCAT GGGTTGCAAT CCAGAGTCCA   660
GGATGGCAGT TCCAGCCCTG GTTACGCCCA TATTAGCACA CAGAAAGAAA GAGAAAGGGA   720
TGTGCCTCTT CACTTTAATC ATAGCTCCCA CTAGATGCAC CCACTACTTC TGCTGATACT   780
CCATTAGCTA ATGCTTGCTT ACATGGTCAC ACTTAGTTTC CAGAGAGACA TGTCTGGACA   840
GTCATGTGCT CAATTAATAT CCAAGTGTCC AATTACTGAG AAAAAAAGAA ACTAGCACCT   900
TTGCTTGGTT GCATTCTTCT TAGCATAAGC CACATTCTTT TTATGAAGTT GTCCTCAGTT   960
ACTTGGATGC CTCAGTTGTC CTTTCATTTA GAAATGCTCC TTGGACATCC TGAATCTGAC  1020
TTCTTTTGTC ATCAGCACCA TCACTACCAC TGCCTTCTTC AAAGCCACCA CGTTCTGTCC  1080
CAGGATGGTT GCAACAACCA CCATAGGGAC TTTTTGCTTC TACTTCCACA CAATAGCCAG  1140
AGTAAGCTTT TGAAAATGTA GGTCAGATCA TGTCTCTCTC TTCTCTTCAA AACCCTCCGA  1200
TGGCTTTTCA TATTACTCAA AAGAAAACCT AAAACTTTGC TGTGAGATCT ATGTGACCCG  1260
GCTTATTCTT CCTCTTACTT TATCTCTGTA TTGCTCTTCC TCACTCTACT CCAGCCATCC  1320
CACCTCCTTG CTGCTTGTCC TATACTCCTA AAAGAAGTTC AGTCTTCCCT TATGATATTT  1380
GCACTTAAAA TAGAAAAAAA AAAAAAAAAA AGCTCAGAGA GGCTGAGTTG TCCAAGGTCA  1440
TGCAGGTTAG AAGTCATGGA GCTGGGATCT AAATCCATGT CAGTCTGACT ATGAGTTCTG  1500
CACCGTTCTA TTCAACCCCA TTGCCTAGAG GTGCTTGATT GCTCAATAAT AGATTCCATG  1560
GACACAGTCA GCTCTTTCTG AGAAAAGGCA GCTCAGCATT TCCATGAGAT CCGCACATCC  1620
TTTTGCAGAA GAAAAC
```

Seq ID No: 185 Protein sequence:
Protein Accession #: none found

```
1          11         21         31         41         51
|          |          |          |          |          |
VELVSMCLEY TKFINIFSKK VLSLKS
```

Seq ID NO: 186 DNA sequence
Nucleic Acid Accession #: NM_002203.2
Coding sequence: 43-3588 (underlined sequences correspond to start and stop codons)

```
1          11         21         31         41         51
|          |          |          |          |          |
CTGCAAACCC AGCGCAACTA CGGTCCCCCG GTCAGACCCA GGATGGGGCC AGAACGGACA    60
GGGGCCGCGC CGCTGCCGCT GCTGCTGGTG TTAGCGCTCA GTCAAGGCAT TTTAAATTGT   120
```

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TGTTTGGCCT ACAATGTTGG TCTCCCAGAA GCAAAAATAT TTTCCGGTCC TTCAAGTGAA   180
CAGTTTGGGT ATGCAGTGCA GCAGTTTATA AATCCAAAAG GCAACTGGTT ACTGGTTGGT   240
TCACCCTGGA GTGGCTTTCC TGAGAACCGA ATGGGAGATG TGTATAAATG TCCTGTTGAC   300
CTATCCACTG CCACATGTGA AAAACTAAAT TTGCAAACTT CAACAAGCAT TCCAAATGTT   360
ACTGAGATGA AAACCAACAT GAGCCTCGGC TTGATCCTCA CCAGGAACAT GGGAACTGGA   420
GGTTTTCTCA CATGTGGTCC TCTGTGGGCA CAGCAATGTG GGAATCAGTA TTACACAACG   480
GGTGTGTGTT CTGACATCAG TCCTGATTTT CAGCTCTCAG CCAGCTTCTC ACCTGCAACT   540
CAGCCCTGCC CTTCCCTCAT AGATGTTGTG GTTGTGTGTG ATGAATCAAA TAGTATTTAT   600
CCTTGGGATG CAGTAAAGAA TTTTTTGGAA AAATTTGTAC AAGGCCTTGA TATAGGCCCC   660
ACAAAGACAC AGGTGGGGTT AATTCAGTAT GCCAATAATC CAAGAGTTGT GTTTAACTTG   720
AACACATATA AAACCAAAGA AGAAATGATT GTAGCAACAT CCCAGACATC CCAATATGGT   780
GGGGACCTCA CAAACACATT CGGAGCAATT CAATATGCAA GAAAATATGC CTATTCAGCA   840
GCTTCTGGTG GGCGACGAAG TGCTACGAAA GTAATGGTAG TTGTAACTGA CGGTGAATCA   900
CATGATGGTT CAATGTTGAA AGCTGTGATT GATCAATGCA ACCATGACAA TATACTGAGG   960
TTTGGCATAG CAGTTCTTGG GTACTTAAAC AGAAACGCCC TTGATACTAA AAATTTAATA  1020
AAAGAAATAA AAGCGATCGC TAGTATTCCA ACAGAAAGAT ACTTTTTCAA TGTGTCTGAT  1080
GAAGCAGCTC TACTAGAAAA GGCTGGGACA TTAGGAGAAC AAATTTTCAG CATTGAAGGT  1140
ACTGTTCAAG GAGGAGACAA CTTTCAGATG GAAATGTCAC AAGTGGGATT CAGTGCAGAT  1200
TACTCTTCTC AAAATGATAT TCTGATGCTG GGTGCAGTGG GAGCTTTTGG CTGGAGTGGG  1260
ACCATTGTCC AGAAGACATC TCATGGCCAT TTGATCTTTC CTAAACAAGC CTTTGACCAA  1320
ATTCTGCAGG ACAGAAATCA CAGTTCATAT TTAGGTTACT CTGTGGCTGC AATTTCTACT  1380
GGAGAAAGCA CTCACTTTGT TGCTGGTGCT CCTCGGGCAA ATTATACCGG CCAGATAGTG  1440
CTATATAGTG TGAATGAGAA TGGCAATATC ACGGTTATTC AGGCTCACCG AGGTGACCAG  1500
ATTGGCTCCT ATTTTGGTAG TGTGCTGTGT TCAGTTGATG TGGATAAAGA CACCATTACA  1560
GACGTGCTCT TGGTAGGTGC ACCAATGTAC ATGAGTGACC TAAAGAAAGA GGAAGGAAGA  1620
GTCTACCTGT TTACTATCAA AAAGGGCATT TTGGGTCAGC ACCAATTTCT TGAAGGCCCC  1680
GAGGGCATTG AAAACACTCG ATTTGGTTCA GCAATTGCAG CTCTTTCAGA CATCAACATG  1740
GATGGCTTTA ATGATGTGAT TGTTGGTTCA CCACTAGAAA ATCAGAATTC TGGAGCTGTA  1800
TACATTTACA ATGGTCATCA GGGCACTATC CGCACAAAGT ATTCCCAGAA AATCTTGGGA  1860
TCCGATGGAG CCTTTAGGAG CCATCTCCAG TACTTTGGGA GGTCCTTGGA TGGCTATGGA  1920
GATTTAAATG GGGATTCCAT CACCGATGTG TCTATTGGTG CCTTTGGACA AGTGGTTCAA  1980
CTCTGGTCAC AAAGTATTGC TGATGTAGCT ATAGAAGCTT CATTCACACC AGAAAAAATC  2040
ACTTTGGTCA ACAAGAATGC TCAGATAATT CTCAAACTCT GCTTCAGTGC AAAGTTCAGA  2100
CCTACTAAGC AAAACAATCA AGTGGCCATT GTATATAACA TCACACTTGA TGCAGATGGA  2160
TTTTCATCCA GAGTAACCTC CAGGGGGTTA TTTAAAGAAA ACAATGAAAG GTGCCTGCAG  2220
AAGAATATGG TAGTAAATCA AGCACAGAGT TGCCCCGAGC ACATCATTTA TATACAGGAG  2280
CCCTCTGATG TTGTCAACTC TTTGGATTTG CGTGTGGACA TCAGTCTGGA AAACCCTGGC  2340
ACTAGCCCTG CCCTTGAAGC CTATTCTGAG ACTGCCAAGG TCTTCAGTAT TCCTTTCCAC  2400
AAAGACTGTG GTGAGGATGG ACTTTGCATT TCTGATCTAG TCCTAGATGT CCGACAAATA  2460
CCAGCTGCTC AAGAACAACC CTTTATTGTC AGCAACCAAA ACAAAAGGTT AACATTTTCA  2520
GTAACACTGA AAAATAAAAG GGAAAGTGCA TACAACACTG GAATTGTTGT TGATTTTTCA  2580
GAAAACTTGT TTTTTGCATC ATTCTCCCTA CCGGTTGATG GGACAGAAGT AACATGCCAG  2640
GTGGCTGCAT CTCAGAAGTC TGTTGCCTGC GATGTAGGCT ACCCTGCTTT AAAGAGAGAA  2700
CAACAGGTGA CTTTTACTAT TAACTTTGAC TTCAATCTTC AAAACCTTCA GAATCAGGCG  2760
TCTCTCAGTT TCCAAGCCTT AAGTGAAAGC CAAGAAGAAA ACAAGGCTGA TAATTTGGTC  2820
AACCTCAAAA TTCCTCTCCT GTATGATGCT GAAATTCACT TAACAAGATC TACCAACATA  2880
AATTTTTATG AAATCTCTTC GGATGGGAAT GTTCCTTCAA TCGTGCACAG TTTTGAAGAT  2940
GTTGGTCCAA AATTCATCTT CTCCCTGAAG GTAACAACAG GAAGTGTTCC AGTAAGCATG  3000
GCAACTGTAA TCATCCACAT CCCTCAGTAT ACCAAAGAAA AGAACCCACT GATGTACCTA  3060
ACTGGGGTGC AAACAGACAA GGCTGGTGAC ATCAGTTGTA ATGCAGATAT CAATCCACTG  3120
AAAATAGGAC AAACATCTTC TTCTGTATCT TTCAAAAGTG AAAATTTCAG GCACACCAAA  3180
GAATTGAACT GCAGAACTGC TTCCTGTAGT AATGTTACCT GCTGGTTGAA AGACGTTCAC  3240
ATGAAAGGAG AATACTTTGT TAATGTGACT ACCAGAATTT GGAACGGGAC TTTCGCATCA  3300
TCAACGTTCC AGACAGTACA GCTAACGGCA GCTGCAGAAA TCAACACCTA TAACCCTGAG  3360
ATATATGTGA TTGAAGATAA CACTGTTACG ATTCCCCTGA TGATAATGAA ACCTGATGAG  3420
AAAGCCGAAG TACCAACAGG AGTTATAATA GGAAGTATAA TTGCTGGAAT CCTTTTGCTG  3480
TTAGCTCTGG TTGCAATTTT ATGGAAGCTC GGCTTCTTCA AAAGAAAATA TGAAAAGATG  3540
ACCAAAAATC CAGATGAGAT TGATGAGACC ACAGAGCTCA GTAGCTGAAC CAGCAGACCT  3600
ACCTGCAGTG GGAACCGGCA GCATCCCAGC CAGGGTTTGC TGTTTGCGTG CATGGATTTC  3660
TTTTTAAATC CCATATTTTT TTTATCATGT CGTAGGTAAA CTAACCTGGT ATTTTAAGAG  3720
AAAACTGCAG GTCAGTTTGG ATGAAGAAAT TGTGGGGGGT GGGGGAGGTG CGGGGGGCAG  3780
GTAGGGAAAT AATAGGGAAA ATACCTATTT TATATGATGG GGGAAAAAAA GTAATCTTTA  3840
AACTGGCTGG CCCAGAGTTT ACATTCTAAT TTGCATTGTG TCAGAAACAT GAAATGCTTC  3900
CAAGCATGAC AACTTTTAAA GAAAAATATG ATACTCTCAG ATTTTAAGGG GGAAAACTGT  3960
TCTCTTTAAA ATATTTGTCT TTAAACAGCA ACTACAGAAG TGGAAGTGCT TGATATGTAA  4020
GTACTTCCAC TTGTGTATAT TTTAATGAAT ATTGATGTTA ACAAGAGGGG AAAACAAAAC  4080
ACAGGTTTTT TCAATTTATG CTGCTCATCC AAAGTTGCCA CAGATGATAC TTCCAAGTGA  4140
TAATTTTATT TATAAACTAG GTAAAATTTG TTGTTGGTTC CTTTTATACC ACGGCTGCCC  4200
CTTCCACACC CCATCTTGCT CTAATGATCA AAACATGCTT GAATAACTGA GCTTAGAGTA  4260
TACCTCCTAT ATGTCCATTT AAGTTAGGAG AGGGGGCGAT ATAGAGACTA AGGCACAAAA  4320
TTTTGTTTAA AACTCAGAAT ATAACATTTA TGTAAAATCC CATCTGCTAG AAGCCCATCC  4380
TGTGCCAGAG GAAGGAAAAG GAGGAAATTT CCTTTCTCTT TTAGGAGGCA CAACAGTTCT  4440
CTTCTAGGAT TTGTTTGGCT GACTGGCAGT AACCTAGTGA ATTTTTGAAA GATGAGTAAT  4500
TTCTTTGGCA ACCTTCCTCC TCCCTTACTG AACCACTCTC CCACCTCCTG GTGGTACCAT  4560
TATTATAGAA GCCCTCTACA GCCTGACTTT CTCTCCAGCG GTCCAAAGTT ATCCCCTCCT  4620
TTACCCCTCA TCCAAAGTTC CCACTCCTTC AGGACAGCTG CTGTGCATTA GATATTAGGG  4680
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GGGAAAGTCA TCTGTTTAAT TTACACACTT GCATGAATTA CTGTATATAA ACTCCTTAAC  4740
TTCAGGGAGC TATTTTCATT TAGTGCTAAA CAAGTAAGAA AAATAAGCTA GAGTGAATTT  4800
CTAAATGTTG GAATGTTATG GGATGTAAAC AATGTAAAGT AAAACACTCT CAGGATTTCA  4860
CCAGAAGTTA CAGATGAGGC ACTGGAAACC ACCACCAAAT TAGCAGGTGC ACCTTCTGTG  4920
GCTGTCTTGT TTCTGAAGTA CTTTTTCTTC CACAAGAGTG AATTTGACCT AGGCAAGTTT  4980
GTTCAAAAGG TAGATCCTGA GATGATTTGG TCAGATTGGG ATAAGGCCCA GCAATCTGCA  5040
TTTTAACAAG CACCCCAGTC ACTAGGATGC AGATGGACCA CACTTTGAGA AACACCACCC  5100
ATTTCTACTT TTTGCACCTT ATTTTCTCTG TTCCTGAGCC CCCACATTCT CTAGGAGAAA  5160
CTTAGATTAA AATTCACAGA CACTACATAT CTAAAGCTTT GACAAGTCCT TGACCTCTAT  5220
AAACTTCAGA GTCCTCATTA TAAAATGGGA AGACTGAGCT GGAGTTCAGC AGTGATGCTT  5280
TTTAGTTTTA AAAGTCTATG ATCTGATCTG GACTTCCTAT AATACAAATA CACAATCCTC  5340
CAAGAATTTG ACTTGGAAAA G
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Seq ID NO: 187 Protein sequence:
Protein Accession #: NP_002194.1

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1          11         21         31         41         51
|          |          |          |          |          |
MGPERTGAAP LPLLLVLALS QGILNCCLAY NVGLPEAKIF SGPSSEQFGY AVQQFINPKG    60
NWLLVGSPWS GFPENRMGDV YKCPVDLSTA TCEKLNLQTS TSIPNVTEMK TNMSLGLILT   120
RNMGTGGFLT CGPLWAQQCG NQYYTTGVCS DISPDFQLSA SFSPATQPCP SLIDVVVVCD   180
ESNSIYPWDA VKNFLEKFVQ GLDIGPTKTQ VGLIQYANNP RVVFNLNTYK TKEEMIVATS   240
QTSQYGGDLT NTFGAIQYAR KYAYSAASGG RRSATKVMVV VTDGESHDGS MLKAVIDQCN   300
HDNILRFGIA VLGYLNRNAL DTKNLIKEIK AIASIPTERY FFNVSDEAAL LEKAGTLGEQ   360
IFSIEGTVQG GDNFQMEMSQ VGFSADYSSQ NDILMLGAVG AFGWSGTIVQ KTSHGHLIFP   420
KQAFDQILQD RNHSSYLGYS VAAISTGEST HFVAGAPRAN YTGQIVLYSV NENGNITVIQ   480
AHRGDQIGSY FGSVLCSVDV DKDTITDVLL VGAPMYMSDL KKEEGRVYLF TIKKGILGQH   540
QFLEGPEGIE NTRFGSAIAA LSDINMDGFN DVIVGSPLEN QNSGAVYIYN GHQGTIRTKY   600
SQKILGSDGA FRSHLQYFGR SLDGYGDLNG DSITDVSIGA FGQVVQLWSQ SIADVAIEAS   660
FTPEKITLVN KNAQIILKLC FSAKFRPTKQ NNQVAIVYNI TLDADGFSSR VTSRGLFKEN   720
NERCLQKNMV VNQAQSCPEH IIYIQEPSDV VNSLDLRVDI SLENPGTSPA LEAYSETAKV   780
FSIPFHKDCG EDGLCISDLV LDVRQIPAAQ EQPFIVSNQN KRLTFSVTLK NKRESAYNTG   840
IVVDFSENLF FASFSLPVDG TEVTCQVAAS QKSVACDVGY PALKREQQVT FTINFDFNLQ   900
NLQNQASLSF QALSESQEEN KADNLVNLKI PLLYDAEIHL TRSTNINFYE ISSDGNVPSI   960
VHSFEDVGPK FIFSLKVTTG SVPVSMATVI IHIPQYTKEK NPLMYLTGVQ TDKAGDISCN  1020
ADINPLKIGQ TSSSVSFKSE NFRHTKELNC RTASCSNVTC WLKDVHMKGE YFVNVTTRIW  1080
NGTFASSTFQ TVQLTAAAEI NTYNPEIYVI EDNTVTIPLM IMKPDEKAEV PTGVIIGSII  1140
AGILLLLALV AILWKLGFFK RKYEKMTKNP DEIDETTELS S
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Seq ID NO: 188 DNA sequence
Nucleic Acid Accession #: NM_002210.1
Coding sequence: 42-3188 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
GGCTACCGCT CCCGGCTTGG CGTCCCGCGC GCACTTCGGC GATGGCTTTT CCGCCGCGGC    60
GACGGCTGCG CCTCGGTCCC CGCGGCCTCC CGCTTCTTCT CTCGGGACTC CTGCTACCTC   120
TGTGCCGCGC CTTCAACCTA GACGTGGACA GTCCTGCCGA GTACTCTGGC CCCGAGGGAA   180
GTTACTTCGG CTTCGCCGTG GATTTCTTCG TGCCCAGCGC GTCTTCCCGG ATGTTTCTTC   240
TCGTGGGAGC TCCCAAAGCA AACACCACCC AGCCTGGGAT TGTGGAAGGA GGGCAGGTCC   300
TCAAATGTGA CTGGTCTTCT ACCCGCCGGT GCCAGCCAAT TGAATTTGAT GCAACAGGCA   360
ATAGAGATTA TGCCAAGGAT GATCCATTGG AATTTAAGTC CCATCAGTGG TTTGGAGCAT   420
CTGTGAGGTC GAAACAGGAT AAAATTTTGG CCTGTGCCCC ATTGTACCAT TGGAGAACTG   480
AGATGAAACA GGAGCGAGAG CCTGTTGGAA CATGCTTTCT TCAAGATGGA ACAAAGACTG   540
TTGAGTATGC TCCATGTAGA TCACAAGATA TTGATGCTGA TGGACAGGGA TTTTGTCAAG   600
GAGGATTCAG CATTGATTTT ACTAAAGCTG ACAGAGTACT TCTTGGTGGT CCTGGTAGCT   660
TTTATTGGCA AGGTCAGCTT ATTTCGGATC AAGTGGCAGA AATCGTATCT AAATACGACC   720
CCAATGTTTA CAGCATCAAG TATAATAACC AATTAGCAAC TCGGACTGCA CAAGCTATTT   780
TTGATGACAG CTATTTGGGT TATTCTGTGG CTGTCGGAGA TTTCAATGGT GATGGCATAG   840
ATGACTTTGT TTCAGGAGTT CCAAGAGCAG CAAGGACTTT GGGAATGGTT TATATTTATG   900
ATGGGAAGAA CATGTCCTCC TTATACAATT TTACTGGCGA GCAGATGGCT GCATATTTCG   960
GATTTTCTGT AGCTGCCACT GACATTAATG GAGATGATTA TGCAGATGTG TTTATTGGAG  1020
CACCTCTCTT CATGGATCGT GGCTCTGATG GCAAACTCCA AGAGGTGGGG CAGGTCTCAG  1080
TGTCTCTACA GAGAGCTTCA GGAGACTTCC AGACGACAAA GCTGAATGGA TTTGAGGTCT  1140
TTGCACGGTT TGGCAGTGCC ATAGCTCCTT TGGGAGATCT GGACCAGGAT GGTTTCAATG  1200
ATATTGCAAT TGCTGCTCCA TATGGGGGTG AAGATAAAAA AGGAATTGTT TATATCTTCA  1260
ATGGAAGATC AACAGGCTTG AACGCAGTCC CATCTCAAAT CCTTGAAGGG CAGTGGGCTG  1320
CTCGAAGCAT GCCACCAAGC TTTGGCTATT CAATGAAAGG AGCCACAGAT ATAGACAAAA  1380
ATGGATATCC AGACTTAATT GTAGGAGCTT TTGGTGTAGA TCGAGCTATC TTATACAGGG  1440
CCAGACCAGT TATCACTGTA AATGCTGGTC TTGAAGTGTA CCCTAGCATT TTAAATCAAG  1500
ACAATAAAAC CTGCTCACTG CCTGGAACAG CTCTCAAAGT TTCCTGTTTT AATGTTAGGT  1560
TCTGCTTAAA GGCAGATGGC AAAGGAGTAC TTCCCAGGAA ACTTAATTTC CAGGTGGAAC  1620
TTCTTTTGGA TAAACTCAAG CAAAAGGGAG CAATTCGACG AGCACTGTTT CTCTACAGCA  1680
GGTCCCCAAG TCACTCCAAG AACATGACTA TTTCAAGGGG GGGACTGATG CAGTGTGAGG  1740
AATTGATAGC GTATCTGCGG GATGAATCTG AATTTAGAGA CAAACTCACT CCAATTACTA  1800
TTTTTATGGA ATATCGGTTG GATTATAGAA CAGCTGCTGA TACAACAGGC TTGCAACCCA  1860
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TTCTTAACCA GTTCACGCCT GCTAACATTA GTCGACAGGC TCACATTCTA CTTGACTGTG  1920
GTGAAGACAA TGTCTGTAAA CCCAAGCTGG AAGTTTCTGT AGATAGTGAT CAAAAGAAGA  1980
TCTATATTGG GGATGACAAC CCTCTGACAT TGATTGTTAA GGCTCAGAAT CAAGGAGAAG  2040
GTGCCTACGA AGCTGAGCTC ATCGTTTCCA TTCCACTGCA GGCTGATTTC ATCGGGGTTG  2100
TCCGAAACAA TGAAGCCTTA GCAAGACTTT CCTGTGCATT TAAGACAGAA AACCAAACTC  2160
GCCAGGTGGT ATGTGACCTT GGAAACCCAA TGAAGGCTGG AACTCAACTC TTAGCTGGTC  2220
TTCGTTTCAG TGTGCACCAG CAGTCAGAGA TGGATACTTC TGTGAAATTT GACTTACAAA  2280
TCCAAAGCTC AAATCTATTT GACAAAGTAA GCCCAGTTGT ATCTCACAAA GTTGATCTTG  2340
CTGTTTTAGC TGCAGTTGAG ATAAGAGGAG TCTCGAGTCC TGATCATATC TTTCTTCCGA  2400
TTCCAAACTG GGAGCACAAG GAGAACCCTG AGACTGAAGA AGATGTTGGG CCAGTTGTTC  2460
AGCACATCTA TGAGCTGAGA AACAATGGTC CAAGTTCATT CAGCAAGGCA ATGCTCCATC  2520
TTCAGTGGCC TTACAAATAT AATAATAACA CTCTGTTGTA TATCCTTCAT TATGATATTG  2580
ATGGACCAAT GAACTGCACT TCAGATATGG AGATCAACCC TTTGAGAATT AAGATCTCAT  2640
CTTTGCAAAC AACTGAAAAG AATGACACGG TTGCCGGGCA AGGTGAGCGG GACCATCTCA  2700
TCACTAAGCG GGATCTTGCC CTCAGTGAAG GAGATATTCA CACTTTGGGT TGTGGAGTTG  2760
CTCAGTGCTT GAAGATTGTC TGCCAAGTTG GGAGATTAGA CAGAGGAAAG AGTGCAATCT  2820
TGTACGTAAA GTCATTACTG TGGACTGAGA CTTTTATGAA TAAAGAAAAT CAGAATCATT  2880
CCTATTCTCT GAAGTCGTCT GCTTCATTTA ATGTCATAGA GTTTCCTTAT AAGAATCTTC  2940
CAATTGAGGA TATCACCAAC TCCACATTGG TTACCACTAA TGTCACCTGG GGCATTCAGC  3000
CAGCGCCCAT GCCTGTGCCT GTGTGGGTGA TCATTTTAGC AGTTCTAGCA GGATTGTTGC  3060
TACTGGCTGT TTTGGTATTT GTAATGTACA GGATGGGCTT TTTTAAACGG GTCCGGCCAC  3120
CTCAAGAAGA ACAAGAAAGG GAGCAGCTTC AACCTCATGA AAATGGTGAA GGAAACTCAG  3180
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TTATAGATTT AAACTTTCTT CATGAGGAGT AAAAATCCAA GGCTTTACTG CTGATAGTGC  3300
TAATTGGCAT TAACCACAAA ATGAGAATTA TATTTGTCAA CCTTCTCCTT ATAAATAAGT  3360
TCAGACATAC ATTTAATAAC ATAGGGTGAC TTGTGTTTTT AGGTATTTAA ATAATAAAAT  3420
TTCAAGGGAT AGTTTTTATT CAATGTATAT AAGACAGGTA GTGCCTGATT TACTACTTTA  3480
TATAAAATAG TACCTCCTTC AGTTACTGTT TCTGATTTAA TGTACGGAAC TTTATTTGTT  3540
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TGTCTTTTGT ATAGGTACTT AATGTTAATA CATATTACAC TACAGTTTAC TTTTCAGAAT  3660
ACTAAAGACT TTATAACTGC ATGAACTTGG ATTTTTTTAA TCACTCATAT GGTAGAATTT  3720
TATAAACACA TACATGATAC CATCCAAATT CTTGCTTTTA ATAACAAAGG TACAATATTT  3780
TGTTTTAGTA TGAAAATCTG GTAGATCCTA TTACACTTCT GTTTATATTA AATCCACAAT  3840
ATTTTATTAC ATTTTTAACT TGTATAAATT TTAGGTCAAA TCCTTCAAGC CAACCTATAC  3900
TAAAAATTAG TTCCATAATC ACAAATGGCT CTTTTGTGTA ATTGTTTAAT TTCACCTGAA  3960
TATCATAATG CTTAAAGCCA TATGGAGTTG GAAATTATTT CCAAAGCATA TTTATTCCAT  4020
TGTTTTAGTC TGGCTATTTA CAGTATAAAA AAAGCATTTT ATTAAAATAC TGTGTAGTTC  4080
TTTGAGATAG TTGCTTATGC ATATAGTAAG TATTACATTC TTAGAGTAGA GCAGAGTTTT  4140
TAGTTAGTAT TAATTTATTT TCCTCCATTC ATGTACTTTT CCTTATATTT CCAAAACTGT  4200
TACTGAGAAT GGGTCAAGAT CAGTGAGAAA TCTTTACAGT TGACAGGAAC CTGGACCCCT  4260
TACCCCAACT TTATGAGTAA TGCTTGGAAT AAAAAACTCT TAAGGCAACT CACTGATTTA  4320
CTTCTAGCAA TAGCATGATG TTACAGGAAT ATTACCTCTG TTTAAGCAAG GTAATGTGTA  4380
AAATCAGTCT CGGCTGTCAG AATAACTTCT AAAAGGTATT TTTATAAGCA GTTCAAGTTA  4440
CTGAAAACCT TTTAAACCTT TCTGAAGTTC GTTAGTATAA ATTACTTTTC TAGGATTATT  4500
AATAAAAGCC ACATAGGTGG CAAGTTGTAG TTTTATATGG CTCTGTAGAG TGGTGAACCT  4560
TCTAGAGGAA TATATGATTT ATTCACAGTT CCTCAAGGCC TGGGGATGAT GATCAGTTAT  4620
ACCTATTTTT GTGCAATTAC ATCATGTTGT ACATTAGAAA TGGAGAGTTT AATAGCTCTT  4680
TAACTGCTGT CCTCATTAGG TAATGATAAA TATTTCCCTT AAATAATTGA CTATTTTGCT  4740
GTGTTTTAAA AATGATTGAA ATTTATCTTG CCATATCTCA TAATTTCATG CACAAGTTGA  4800
CTGAGCTAAT CTTGAGAATA TATTCGTAAA ATAGGAGCAC ATTTAGTTGA GGTATACAAG  4860
GTAGGACTCT AGACAAAACC TTCTATTTTA GCTTTAGTGA ATTTCAAAAG TAATGGGTCT  4920
TGGAGTATAG ATTTTTATTA GTAGCTTGAA AGAGCTTAAT CATATGCAGT AAGTATTTTT  4980
ATTACCAATA AATTTAAAAT TTTTTAAGAA AAATATTTTT ATCCTAGGGC CAAGTGTTGC  5040
CTGCCACCAA TCAGTAAGTT AGTCTATAAC AAATTTTACC CTAACAGTTT TACCACCTAG  5100
CAACAGTCAT TTCTGAAAAT ATGTTGGATA GAAAGTCACT CTTTGGCAAA AGTGTTAGAA  5160
TTTGCTTTTG TGCCATCTAT TCCTTTTATG GCATCTATCT TGAAAGTAAT CTTGTATTGG  5220
AGATTGAAAG ATGCTGTAAT TTAGAAATTA ACATGATATC TTAAATTACC TTTATGAAAT  5280
ATAGTTTTGT ATAATAGCAT AGATTTTCCT TCAAAAAATG AACATTTATA TATCTACAAA  5340
AATATGGAGA AGAGCAATTT GAAAGCCTAC TTTCTGAAGA AAATGGTGGG ATTTTTTTTT  5400
ATCATGATTA AATATCAAAA AATTGCCCTA TGAAAACTTT AAATCTCTAA AACATTTGAA  5460
ATACTACCAT ATTTGTGATT TATTGAGAAT AAAAATCCAT TTTGAAATGT AAAATTTTTA  5520
TGATCTGATT CAGTTTTAAG AAAACATGAA TGAACTAGAA GATATTAAAA ACATTTGACA  5580
TTGGTAAGAA ATATTGATAC TGATATTGAT TTTTATATAG GTATTTATTT CAGAATTGAT  5640
ATTTGAGAA AAATACATGT GAGTCATTTT TTCTGTTTCT CTTTTCTCTT AACGATTATC  5700
ACTGTAATTC TGAATCT
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Seq ID NO: 189 Protein sequence:
Protein Accession #: NP_002201.1

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1          11         21         31         41         51
|          |          |          |          |          |
MAFPPRRRLR LGPRGLPLLL SGLLLPLCRA FNLDVDSPAE YSGPEGSYFG FAVDFFVPSA    60
SSRMFLLVGA PKANTTQPGI VEGGQVLKCD WSSTRRCQPI EFDATGNRDY AKDDPLEFKS   120
HQWFGASVRS KQDKILACAP LYHWRTEMKQ EREPVGTCFL QDGTKTVEYA PCRSQDIDAD   180
GQGFCQGGFS IDFTKADRVL LGGPGSFYWQ GQLISDQVAE IVSKYDPNVY SIKYNNQLAT   240
RTAQAIFDDS YLGYSVAVGD FNGDGIDDFV SGVPRAARTL GMVYIYDGKN MSSLYNFTGE   300
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QMAAYFGFSV AATDINGDDY ADVFIGAPLF MDRGSDGKLQ EVGQVSVSLQ RASGDFQTTK   360
LNGFEVFARF GSAIAPLGDL DQDGFNDIAI AAPYGGEDKK GIVYIFNGRS TGLNAVPSQI   420
LEGQWAARSM PPSFGYSMKG ATDIDKNGYP DLIVGAFGVD RAILYRARPV ITVNAGLEVY   480
PSILNQDNKT CSLPGTALKV SCFNVRFCLK ADGKGVLPRK LNFQVELLLD KLKQKGAIRR   540
ALFLYSRSPS HSKNMTISRG GLMQCEELIA YLRDESEFRD KLTPITIFME YRLDYRTAAD   600
TTGLQPILNQ FTPANISRQA HILLDCGEDN VCKPKLEVSV DSDQKKIYIG DDNPLTLIVK   660
AQNQGEGAYE AELIVSIPLQ ADFIGVVRNN EALARLSCAF KTENQTRQVV CDLGNPMKAG   720
TQLLAGLRFS VHQQSEMDTS VKFDLQIQSS NLFDKVSPVV SHKVDLAVLA AVEIRGVSSP   780
DHIFLPIPNW EHKENPETEE DVGPVVQHIY ELRNNGPSSF SKAMLHLQWP YKYNNNTLLY   840
ILHYDIDGPM NCTSDMEINP LRIKISSLQT TEKNDTVAGQ GERDHLITKR DLALSEGDIH   900
TLGCGVAQCL KIVCQVGRLD RGKSAILYVK SLLWTETFMN KENQNHSYSL KSSASFNVIE   960
FPYKNLPIED ITNSTLVTTN VTWGIQPAPM PVPVWVIILA VLAGLLLLAV LVFVMYRMGF  1020
FKRVRPPQEE QEREQLQPHE NGEGNSET
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Seq ID NO: 190 DNA sequence
Nucleic Acid Accession #: NM_004864
Coding sequence: 26-952 (underlined sequences correspond to start and stop codons)

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CGGAACGAGG GCAACCTGCA CAGCCATGCC CGGGCAAGAA CTCAGGACGG TGAATGGCTC    60
TCAGATGCTC CTGGTGTTGC TGGTGCTCTC GTGGCTGCCG CATGGGGGCG CCCTGTCTCT   120
GGCCGAGGCG AGCCGCGCAA GTTTCCCGGG ACCCTCAGAG TTGCACTCCG AAGACTCCAG   180
ATTCCGAGAG TTGCGGAAAC GCTACGAGGA CCTGCTAACC AGGCTGCGGG CCAACCAGAG   240
CTGGGAAGAT TCGAACACCG ACCTCGTCCC GGCCCCTGCA GTCCGGATAC TCACGCCAGA   300
AGTGCGGCTG GGATCCGGCG GCCACCTGCA CCTGCGTATC TCTCGGGCCG CCCTTCCCGA   360
GGGGCTCCCC GAGGCCTCCC GCCTTCACCG GGCTCTGTTC CGGCTGTCCC CGACGGCGTC   420
AAGGTCGTGG GACGTGACAC GACCGCTGCG GCGTCAGCTC AGCCTTGCAA GACCCCAAGC   480
GCCCGCGCTG CACCTGCGAC TGTCGCCGCC GCCGTCGCAG TCGGACCAAC TGCTGGCAGA   540
ATCTTCGTCC GCACGGCCCC AGCTGGAGTT GCACTTGCGG CCGCAAGCCG CCAGGGGGCG   600
CCGCAGAGCG CGTGCGCGCA ACGGGGACGA CTGTCCGCTC GGGCCCGGGC GTTGCTGCCG   660
TCTGCACACG GTCCGCGCGT CGCTGGAAGA CCTGGGCTGG GCCGATTGGG TGCTGTCGCC   720
ACGGGAGGTG CAAGTGACCA TGTGCATCGG CGCGTGCCCG AGCCAGTTCC GGGCGGCAAA   780
CATGCACGCG CAGATCAAGA CGAGCCTGCA CCGCCTGAAG CCCGACACGG AGCCAGCGCC   840
CTGCTGCGTG CCCGCCAGCT ACAATCCCAT GGTGCTCATT CAAAAGACCG ACACCGGGGT   900
GTCGCTCCAG ACCTATGATG ACTTGTTAGC CAAAGACTGC CACTGCATAT GAGCAGTCCT   960
GGTCCTTCCA CTGTGCACCT GCGCGGGGGA GGCGACCTCA GTTGTCCTGC CCTGTGGAAT  1020
GGGCTCAAGG TTCCTGAGAC ACCCGATTCC TGCCCAAACA GCTGTATTTA TATAAGTCTG  1080
TTATTTATTA TTAATTTATT GGGGTGACCT TCTTGGGGAC TCGGGGGCTG GTCTGATGGA  1140
ACTGTGTATT TATTTAAAAC TCTGGTGATA AAAATAAAGC TGTCTGAACT GTTAAAAAAA  1200
AAAA
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Seq ID NO: 191 Protein sequence:
Protein Accession #: NP_004855

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1          11         21         31         41         51
|          |          |          |          |          |
MPGQELRTVN GSQMLLVLLV LSWLPHGGAL SLAEASRASF PGPSELHSED SRFRELRKRY    60
EDLLTRLRAN QSWEDSNTDL VPAPAVRILT PEVRLGSGGH LHLRISRAAL PEGLPEASRL   120
HRALFRLSPT ASRSWDVTRP LRRQLSLARP QAPALHLRLS PPPSQSDQLL AESSSARPQL   180
ELHLRPQAAR GRRRARARNG DDCPLGPGRC CRLHTVRASL EDLGWADWVL SPREVQVTMC   240
IGACPSQFRA ANMHAQIKTS LHRLKPDTEP APCCVPASYN PMVLIQKTDT GVSLQTYDDL   300
LAKDCHCI
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Seq ID NO: 192 DNA sequence
Nucleic Acid Accession #: XM_061731.1
Coding sequence: 1-567 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
ATGAGAAAAG GAAATGAGGG AGAGAACACA GAAGAGGGCA GGCTTGCTCA GCTTGCTCAA    60
AGAAAGTTTC TCAAAGAAGA TGGCATTACA TTGCACATCT CTCTGTGTCT CTCTATTGCT   120
GTAAAAGAAC CTTTCTCTCT GATTGGACTT GACACACAGA AGGATCTCAG TAAAGATTTG   180
CTGTTGTTGA TGTCCACAGA CACTGGCAAG GACAGGTTTA CCAACATACT GCTGTCACAC   240
TCCCCTCCAA TGTGCACCAA ATCACGTAAA AATGGGGATA ATGACTCCCC TGCCTTCACA   300
TGGGGTGGCA AAGACACCAG GAGCAATACT GATCTTCCTA TCAGAGACCC TGGGGGCAAG   360
AGTCTTTCAC TCACCAAACA TTCCCACAAG CCTGTCCCTG AGCATCAGTG TGACCAGAGA   420
GAGGTCTTCC AGCCACTTTC AGAGCCAGGT GTAGAAGCAG AGATGGAAGT GTTCGCTGAT   480
GCTGGATGGT GGATTTATCA GAGCTGTCAG GTTCCTTCCT CAACCCTTGC AAGAAAGAAG   540
ATGGTTTATT CTAAAGAAAC TGAGTGA
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Seq ID NO: 193 Protein sequence:
Protein Accession #: XP_061731.1

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1          11         21         31         41         51
|          |          |          |          |          |
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MRKGNEGENT EEGRLAQLAQ RKFLKEDGIT LHISLCLSIA VKEPFSLIGL DTQKDLSKDL    60
LLLMSTDTGK DRFTNILLSH SPPMCTKSRK NGDNDSPAFT WGGKDTRSNT DLPIRDPGGK   120
SLSLTKHSHK PVPEHQCDQR EVFQPLSEPG VEAEMEVFAD AGWWIYQSCQ VPSSTLARKK   180
MVYSKETE
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Seq ID NO: 194 DNA sequence
Nucleic Acid Accession #: NM_005415.2
Coding sequence: 371-2410 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
GAGCTGTCCC CGGTGCCGCC GACCCGGGCC GTGCCGTGTG CCCGTGGCTC CAGCCGCTGC    60
CGCCTCGATC TCCTCGTCTC CCGCTCCGCC CTCCCTTTTC CCTGGATGAA CTTGCGTCCT   120
TTCTCTTCTC CGCCATGGAA TTCTGCTCCG TGCTTTTAGC CCTCCTGAGC CAAAGAAACC   180
CCAGACAACA GATGCCCATA CGCAGCGTAT AGCAGTAACT CCCCAGCTCG GTTTCTGTGC   240
CGTAGTTTAC AGTATTTAAT TTTATATAAT ATATATTATT TATTATAGCA TTTTTGATAC   300
CTCATATTCT GTTTACACAT CTTGAAAGGC GCTCAGTAGT TCTCTTACTA AACAACCACT   360
ACTCCAGAGA ATGGCAACGC TGATTACCAG TACTACAGCT GCTACCGCCG CTTCTGGTCC   420
TTTGGTGGAC TACCTATGGA TGCTCATCCT GGGCTTCATT ATTGCATTTG TCTTGGCATT   480
CTCCGTGGGA GCCAATGATG TAGCAAATTC TTTTGGTACA GCTGTGGGCT CAGGTGTAGT   540
GACCCTGAAG CAAGCCTGCA TCCTAGCTAG CATCTTTGAA ACAGTGGGCT CTGTCTTACT   600
GGGGGCCAAA GTGAGCGAAA CCATCCGGAA GGGCTTGATT GACGTGGAGA TGTACAACTC   660
GACTCAAGGG CTACTGATGG CCGGCTCAGT CAGTGCTATG TTTGGTTCTG CTGTGTGGCA   720
ACTCGTGGCT TCGTTTTTGA AGCTCCCTAT TTCTGGAACC CATTGTATTG TTGGTGCAAC   780
TATTGGTTTC TCCCTCGTGG CAAAGGGGCA GGAGGGTGTC AAGTGGTCTG AACTGATAAA   840
AATTGTGATG TCTTGGTTCG TGTCCCCACT GCTTTCTGGA ATTATGTCTG GAATTTTATT   900
CTTCCTGGTT CGTGCATTCA TCCTCCATAA GGCAGATCCA GTTCCTAATG GTTTGCGAGC   960
TTTGCCAGTT TTCTATGCCT GCACAGTTGG AATAAACCTC TTTTCCATCA TGTATACTGG  1020
AGCACCGTTG CTGGGCTTTG ACAAACTTCC TCTGTGGGGT ACCATCCTCA TCTCGGTGGG  1080
ATGTGCAGTT TTCTGTGCCC TTATCGTCTG GTTCTTTGTA TGTCCCAGGA TGAAGAGAAA  1140
AATTGAACGA GAAATAAAGT GTAGTCCTTC TGAAAGCCCC TTAATGGAAA AAAAGAATAG  1200
CTTGAAAGAA GACCATGAAG AAACAAAGTT GTCTGTTGGT GATATTGAAA ACAAGCATCC  1260
TGTTTCTGAG GTAGGGCCTG CCACTGTGCC CCTCCAGGCT GTGGTGGAGG AGAGAACAGT  1320
CTCATTCAAA CTTGGAGATT TGGAGGAAGC TCCAGAGAGA GAGAGGCTTC CCAGCGTGGA  1380
CTTGAAAGAG GAAACCAGCA TAGATAGCAC CGTGAATGGT GCAGTGCAGT TGCCTAATGG  1440
GAACCTTGTC CAGTTCAGTC AAGCCGTCAG CAACCAAATA AACTCCAGTG GCCACTCCCA  1500
GTATCACACC GTGCATAAGG ATTCCGGCCT GTACAAAGAG CTACTCCATA AATTACATCT  1560
TGCCAAGGTG GGAGATTGCA TGGGAGACTC CGGTGACAAA CCCTTAAGGC GCAATAATAG  1620
CTATACTTCC TATACCATGG CAATATGTGG CATGCCTCTG GATTCATTCC GTGCCAAAGA  1680
AGGTGAACAG AAGGGCGAAG AAATGGAGAA GCTGACATGG CCTAATGCAG ACTCCAAGAA  1740
GCGAATTCGA ATGGACAGTT ACACCAGTTA CTGCAATGCT GTGTCTGACC TTCACTCAGC  1800
ATCTGAGATA GACATGAGTG TCAAGGCAGC GATGGGTCTA GGTGACAGAA AAGGAAGTAA  1860
TGGCTCTCTA GAAGAATGGT ATGACCAGGA TAAGCCTGAA GTCTCTCTCC TCTTCCAGTT  1920
CCTGCAGATC CTTACAGCCT GCTTTGGGTC ATTCGCCCAT GGTGGCAATG ACGTAAGCAA  1980
TGCCATTGGG CCTCTGGTTG CTTTATATTT GGTTTATGAC ACAGGAGATG TTTCTTCAAA  2040
AGTGGCAACA CCAATATGGC TTCTACTCTA TGGTGGTGTT GGTATCTGTG TTGGTCTGTG  2100
GGTTTGGGGA AGAAGAGTTA TCCAGACCAT GGGGAAGGAT CTGACACCGA TCACACCCTC  2160
TAGTGGCTTC AGTATTGAAC TGGCATCTGC CCTCACTGTG GTGATTGCAT CAAATATTGG  2220
CCTTCCCATC AGTACAACAC ATTGTAAAGT GGGCTCTGTT GTGTCTGTTG GCTGGCTCCG  2280
GTCCAAGAAG GCTGTTGACT GGCGTCTCTT TCGTAACATT TTTATGGCCT GGTTTGTCAC  2340
AGTCCCCATT TCTGGAGTTA TCAGTGCTGC CATCATGGCA ATCTTCAGAT ATGTCATCCT  2400
CAGAATGTGA AGCTGTTTGA GATTAAAATT TGTGTCAATG TTTGGGACCA TCTTAGGTAT  2460
TCCTGCTCCC CTGAAGAATG ATTACAGTGT TAACAGAAGA CTGACAAGAG TCTTTTTATT  2520
TGGGAGCAGA GGAGGGAAGT GTTACTTGTG CTATAACTGC TTTTGTGCTA AATATGAATT  2580
GTCTCAAAAT TAGCTGTGTA AAATAGCCCG GGTTCCACTG GCTCCTGCTG AGGTCCCCTT  2640
TCCTTCTGGG CTGTGAATTC CTGTACATAT TTCTCTACTT TTTGTATCAG GCTTCAATTC  2700
CATTATGTTT TAATGTTGTC TCTGAAGATG ACTTGTGATT TTTTTTTCTT TTTTTTAAAC  2760
CATGAAGAGC CGTTTGACAG AGCATGCTCT GCGTTGTTGG TTTCACCAGC TTCTGCCCTC  2820
ACATGCACAG GGATTTAACA ACAAAAATAT AACTACAACT TCCCTTGTAG TCTCTTATAT  2880
AAGTAGAGTC CTTGGTACTC TGCCCTCCTG TCAGTAGTGG CAGGATCTAT TGGCATATTC  2940
GGGAGCTTCT TAGAGGGATG AGGTTCTTTG AACACAGTGA AAATTTAAAT TAGTAACTTT  3000
TTTGCAAGCA GTTTATTGAC TGTTATTGCT AAGAAGAAGT AAGAAAGAAA AAGCCTGTTG  3060
GCAATCTTGG TTATTTCTTT AAGATTTCTG GCAGTGTGGG ATGGATGAAT GAAGTGGAAT  3120
GTGAACTTTG GGCAAGTTAA ATGGGACAGC CTTCCATGTT CATTTGTCTA CCTCTTAACT  3180
GAATAAAAAA GCCTACAGTT TTTAGAAAAA ACCCGAATTC
```

Seq ID NO: 195 Protein sequence:
Protein Accession #: NP_005406.2

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1          11         21         31         41         51
|          |          |          |          |          |
MATLITSTTA ATAASGPLVD YLWMLILGFI IAFVLAFSVG ANDVANSFGT AVGSGVVTLK    60
QACILASIFE TVGSVLLGAK VSETIRKGLI DVEMYNSTQG LLMAGSVSAM FGSAVWQLVA   120
SFLKLPISGT HCIVGATIGF SLVAKGQEGV KWSELIKIVM SWFVSPLLSG IMSGILFFLV   180
RAFILHKADP VPNGLRALPV FYACTVGINL FSIMYTGAPL LGFDKLPLWG TILISVGCAV   240
FCALIVWFFV CPRMKRKIER EIKCSPSESP LMEKKNSLKE DHEETKLSVG DIENKHPVSE   300
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VGPATVPLQA VVEERTVSFK LGDLEEAPER ERLPSVDLKE ETSIDSTVNG AVQLPNGNLV   360
QFSQAVSNQI NSSGHSQYHT VHKDSGLYKE LLHKLHLAKV GDCMGDSGDK PLRRNNSYTS   420
YTMAICGMPL DSFRAKEGEQ KGEEMEKLTW PNADSKKRIR MDSYTSYCNA VSDLHSASEI   480
DMSVKAAMGL GDRKGSNGSL EEWYDQDKPE VSLLFQFLQI LTACFGSFAH GGNDVSNAIG   540
PLVALYLVYD TGDVSSKVAT PIWLLLYGGV GICVGLWVWG RRVIQTMGKD LTPITPSSGF   600
SIELASALTV VIASNIGLPI STTHCKVGSV VSVGWLRSKK AVDWRLFRNI FMAWFVTVPI   660
SGVISAAIMA IFRYVILRM
```

Seq ID NO: 196 DNA sequence
Nucleic Acid Accession #: NM_000020.1
Coding sequence: 283-1794 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
AGGAAACGGT TTATTAGGAG GGAGTGGTGG AGCTGGGCCA GGCAGGAAGA CGCTGGAATA     60
AGAAACATTT TTGCTCCAGC CCCCATCCCA GTCCCGGGAG GCTGCCGCGC CAGCTGCGCC    120
GAGCGAGCCC CTCCCCGGCT CCAGCCCGGT CCGGGGCCGC GCCGGACCCC AGCCCGCCGT    180
CCAGCGCTGG CGGTGCAACT GCGGCCGCGC GGTGGAGGGG AGGTGGCCCC GGTCCGCCGA    240
AGGCTAGCGC CCCGCCACCC GCAGAGCGGG CCCAGAGGGA CCATGACCTT GGGCTCCCCC    300
AGGAAAGGCC TTCTGATGCT GCTGATGGCC TTGGTGACCC AGGGAGACCC TGTGAAGCCG    360
TCTCGGGGCC CGCTGGTGAC CTGCACGTGT GAGAGCCCAC ATTGCAAGGG GCCTACCTGC    420
CGGGGGGCCT GGTGCACAGT AGTGCTGGTG CGGGAGGAGG GGAGGCACCC CCAGGAACAT    480
CGGGGCTGCG GGAACTTGCA CAGGGAGCTC TGCAGGGGGC GCCCCACCGA GTTCGTCAAC    540
CACTACTGCT GCGACAGCCA CCTCTGCAAC CACAACGTGT CCCTGGTGCT GGAGGCCACC    600
CAACCTCCTT CGGAGCAGCC GGGAACAGAT GGCCAGCTGG CCCTGATCCT GGGCCCCGTG    660
CTGGCCTTGC TGGCCCTGGT GGCCCTGGGT GTCCTGGGCC TGTGGCATGT CCGACGGAGG    720
CAGGAGAAGC AGCGTGGCCT GCACAGCGAG CTGGGAGAGT CCAGTCTCAT CCTGAAAGCA    780
TCTGAGCAGG GCGACACGAT GTTGGGGGAC CTCCTGGACA GTGACTGCAC CACAGGGAGT    840
GGCTCAGGGC TCCCCTTCCT GGTGCAGAGG ACAGTGGCAC GGCAGGTTGC CTTGGTGGAG    900
TGTGTGGGAA AAGGCCGCTA TGGCGAAGTG TGGCGGGGCT TGTGGCACGG TGAGAGTGTG    960
GCCGTCAAGA TCTTCTCCTC GAGGGATGAA CAGTCCTGGT TCCGGGAGAC TGAGATCTAT   1020
AACACAGTAT TGCTCAGACA CGACAACATC CTAGGCTTCA TCGCCTCAGA CATGACCTCC   1080
CGCAACTCGA GCACGCAGCT GTGGCTCATC ACGCACTACC ACGAGCACGG CTCCCTCTAC   1140
GACTTTCTGC AGAGACAGAC GCTGGAGCCC CATCTGGCTC TGAGGCTAGC TGTGTCCGCG   1200
GCATGCGGCC TGGCGCACCT GCACGTGGAG ATCTTCGGTA CACAGGGCAA ACCAGCCATT   1260
GCCCACCGCG ACTTCAAGAG CCGCAATGTG CTGGTCAAGA GCAACCTGCA GTGTTGCATC   1320
GCCGACCTGG GCCTGGCTGT GATGCACTCA CAGGGCAGCG ATTACCTGGA CATCGGCAAC   1380
AACCCGAGAG TGGGCACCAA GCGGTACATG GCACCCGAGG TGCTGGACGA GCAGATCCGC   1440
ACGGACTGCT TTGAGTCCTA CAAGTGGACT GACATCTGGG CCTTTGGCCT GGTGCTGTGG   1500
GAGATTGCCC GCCGGACCAT CGTGAATGGC ATCGTGGAGG ACTATAGACC ACCCTTCTAT   1560
GATGTGGTGC CCAATGACCC CAGCTTTGAG GACATGAAGA AGGTGGTGTG TGTGGATCAG   1620
CAGACCCCCA CCATCCCTAA CCGGCTGGCT GCAGACCCGG TCCTCTCAGG CCTAGCTCAG   1680
ATGATGCGGG AGTGCTGGTA CCCAAACCCC TCTGCCCGAC TCACCGCGCT GCGGATCAAG   1740
AAGACACTAC AAAAAATTAG CAACAGTCCA GAGAAGCCTA AAGTGATTCA ATAGCCCAGG   1800
AGCACCTGAT TCCTTTCTGC CTGCAGGGGG CTGGGGGGGT GGGGGGCAGT GGATGGTGCC   1860
CTATCTGGGT AGAGGTAGTG TGAGTGTGGT GTGTGCTGGG GATGGGCAGC TGCGCCTGCC   1920
TGCTCGGCCC CCAGCCCACC CAGCCAAAAA TACAGCTGGG CTGAAACCTG
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Seq ID NO: 197 Protein sequence:
Protein Accession #: NP_000011.1

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1          11         21         31         41         51
|          |          |          |          |          |
MTLGSPRKGL LMLLMALVTQ GDPVKPSRGP LVTCTCESPH CKGPTCRGAW CTVVLVREEG     60
RHPQEHRGCG NLHRELCRGR PTEFVNHYCC DSHLCNHNVS LVLEATQPPS EQPGTDGQLA    120
LILGPVLALL ALVALGVLGL WHVRRRQEKQ RGLHSELGES SLILKASEQG DTMLGDLLDS    180
DCTTGSGSGL PFLVQRTVAR QVALVECVGK GRYGEVWRGL WHGESVAVKI FSSRDEQSWF    240
RETEIYNTVL LRHDNILGFI ASDMTSRNSS TQLWLITHYH EHGSLYDFLQ RQTLEPHLAL    300
RLAVSAACGL AHLHVEIFGT QGKPAIAHRD FKSRNVLVKS NLQCCIADLG LAVMHSQGSD    360
YLDIGNNPRV GTKRYMAPEV LDEQIRTDCF ESYKWTDIWA FGLVLWEIAR RTIVNGIVED    420
YRPPFYDVVP NDPSFEDMKK VVCVDQQTPT IPNRLAADPV LSGLAQMMRE CWYPNPSARL    480
TALRIKKTLQ KISNSPEKPK VIQ
```

Seq ID NO: 198 DNA sequence
Nucleic Acid Accession #: NM_003199.1
Coding sequence: 200-2203 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
CGGGGGGATC TTGGCTGTGT GTCTGCGGAT CTGTAGTGGC GGCGGCGGCG GCGGCGGCGG     60
GGAGGCAGCA GGCGCGGGAG CGGGCGCAGG AGCAGGCGGC GGCGGTGGCG GCGGCGGTTA    120
GACATGAACG CCGCCTCGGC GCCGGCGGTG CACGGAGAGC CCCTTCTCGC GCGCGGGCGG    180
TTTGTGTGAT TTTGCTAAAA TGCATCACCA ACAGCGAATG GCTGCCTTAG GGACGGACAA    240
AGAGCTGAGT GATTTACTGG ATTTCAGTGC GATGTTTTCA CCTCCTGTGA GCAGTGGGAA    300
AAATGGACCA ACTTCTTTGG CAAGTGGACA TTTTACTGGC TCAAATGTAG AAGACAGAAG    360
TAGCTCAGGG TCCTGGGGGA ATGGAGGACA TCCAAGCCCG TCCAGGAACT ATGGAGATGG    420
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GACTCCCTAT GACCACATGA CCAGCAGGGA CCTTGGGTCA CATGACAATC TCTCTCCACC   480
TTTTGTCAAT TCCAGAATAC AAAGTAAAAC AGAAAGGGGC TCATACTCAT CTTATGGGAG   540
AGAATCAAAC TTACAGGGTT GCCACCAGCA GAGTCTCCTT GGAGGTGACA TGGATATGGG   600
CAACCCAGGA ACCCTTTCGC CCACCAAACC TGGTTCCCAG TACTATCAGT ATTCTAGCAA   660
TAATCCCCGA AGGAGGCCTC TTCACAGTAG TGCCATGGAG GTACAGACAA AGAAAGTTCG   720
AAAAGTTCCT CCAGGTTTGC CATCTTCAGT CTATGCTCCA TCAGCAAGCA CTGCCGACTA   780
CAATAGGGAC TCGCCAGGCT ATCCTTCCTC CAAACCAGCA ACCAGCACTT TCCCTAGCTC   840
CTTCTTCATG CAAGATGGCC ATCACAGCAG TGACCCTTGG AGCTCCTCCA GTGGGATGAA   900
TCAGCCTGGC TATGCAGGAA TGTTGGGCAA CTCTTCTCAT ATTCCACAGT CCAGCAGCTA   960
CTGTAGCCTG CATCCACATG AACGTTTGAG CTATCCATCA CACTCCTCAG CAGACATCAA  1020
TTCCAGTCTT CCTCCGATGT CCACTTTCCA TCGTAGTGGT ACAAACCATT ACAGCACCTC  1080
TTCCTGTACG CCTCCTGCCA ACGGGACAGA CAGTATAATG GCAAATAGAG GAAGCGGGGC  1140
AGCCGGCAGC TCCCAGACTG GAGATGCTCT GGGGAAAGCA CTTGCTTCGA TCTATTCTCC  1200
AGATCACACT AACAACAGCT TTTCATCAAA CCCTTCAACT CCTGTTGGCT CTCCTCCATC  1260
TCTCTCAGCA GGCACAGCTG TTTGGTCTAG AAATGGAGGA CAGGCCTCAT CGTCTCCTAA  1320
TTATGAAGGA CCCTTACACT CTTTGCAAAG CCGAATTGAA GATCGTTTAG AAAGACTGGA  1380
TGATGCTATT CATGTTCTCC GGAACCATGC AGTGGGCCCA TCCACAGCTA TGCCTGGTGG  1440
TCATGGGGAC ATGCATGGAA TCATTGGACC TTCTCATAAT GGAGCCATGG GTGGTCTGGG  1500
CTCAGGGTAT GGAACCGGCC TTCTTTCAGC CAACAGACAT TCACTCATGG TGGGGACCCA  1560
TCGTGAAGAT GGCGTGGCCC TGAGAGGCAG CCATTCTCTT CTGCCAAACC AGGTTCCGGT  1620
TCCACAGCTT CCTGTCCAGT CTGCGACTTC CCCTGACCTG AACCCACCCC AGGACCCTTA  1680
CAGAGGCATG CCACCAGGAC TACAGGGGCA GAGTGTCTCC TCTGGCAGCT CTGAGATCAA  1740
ATCCGATGAC GAGGGTGATG AGAACCTGCA AGACACGAAA TCTTCGGAGG ACAAGAAATT  1800
AGATGACGAC AAGAAGGATA TCAAATCAAT TACTAGCAAT AATGACGATG AGGACCTGAC  1860
ACCAGAGCAG AAGGCAGAGC GTGAGAAGGA GCGGAGGATG GCCAACAATG CCCGAGAGCG  1920
TCTGCGGGTC CGTGACATCA ACGAGGCTTT CAAAGAGCTC GGCCGCATGG TGCAGCTCCA  1980
CCTCAAGAGT GACAAGCCCC AGACCAAGCT CCTGATCCTC CACCAGGCGG TGGCCGTCAT  2040
CCTCAGTCTG GAGCAGCAAG TCCGAGAAAG GAATCTGAAT CCGAAAGCTG CGTGTCTGAA  2100
AAGAAGGGAG GAAGAGAAGG TGTCCTCGGA GCCTCCCCCT CTCTCCTTGG CCGGCCCACA  2160
CCCTGGAATG GGAGACGCAT CGAATCACAT GGGACAGATG TAAAAGGGTC CAAGTTGCCA  2220
CATTGCTTCA TTAAAACAAG AGACCACTTC CTTAACAGCT GTATTATCTT AAACCCACAT  2280
AAACACTTCT CCTTAACCCC CATTTTTGTA ATATAAGACA AGTCTGAGTA GTTATGAATC  2340
GCAGACGCAA GAGGTTTCAG CATTCCCAAT TATCAAAAAA CAGAAAAACA AAAAAAAGAA  2400
AGAAAAAAGT GCAACTTGAG GGACGACTTT CTTTAACATA TCATTCAGAA TGTGCAAAGC  2460
AGTATGTACA GGCTGAGACA CAGCCCAGAG ACTGAACGGC
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Seq ID NO: 199 Protein sequence:
Protein Accession #: NP_003190.1

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1          11         21         31         41         51
|          |          |          |          |          |
MHHQQRMAAL GTDKELSDLL DFSAMFSPPV SSGKNGPTSL ASGHFTGSNV EDRSSSGSWG    60
NGGHPSPSRN YGDGTPYDHM TSRDLGSHDN LSPPFVNSRI QSKTERGSYS SYGRESNLQG   120
CHQQSLLGGD MDMGNPGTLS PTKPGSQYYQ YSSNNPRRRP LHSSAMEVQT KKVRKVPPGL   180
PSSVYAPSAS TADYNRDSPG YPSSKPATST FPSSFFMQDG HHSSDPWSSS SGMNQPGYAG   240
MLGNSSHIPQ SSSYCSLHPH ERLSYPSHSS ADINSSLPPM STFHRSGTNH YSTSSCTPPA   300
NGTDSIMANR GSGAAGSSQT GDALGKALAS IYSPDHTNNS FSSNPSTPVG SPPSLSAGTA   360
VWSRNGGQAS SSPNYEGPLH SLQSRIEDRL ERLDDAIHVL RNHAVGPSTA MPGGHGDMHG   420
IIGPSHNGAM GGLGSGYGTG LLSANRHSLM VGTHREDGVA LRGSHSLLPN QVPVPQLPVQ   480
SATSPDLNPP QDPYRGMPPG LQGQSVSSGS SEIKSDDEGD ENLQDTKSSE DKKLDDDKKD   540
IKSITSNNDD EDLTPEQKAE REKERRMANN ARERLRVRDI NEAFKELGRM VQLHLKSDKP   600
QTKLLILHQA VAVILSLEQQ VRERNLNPKA ACLKRREEEK VSSEPPPLSL AGPHPGMGDA   660
SNHMGQM
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Seq ID NO: 200 DNA sequence
Nucleic Acid Accession #: BC005987 (1-1286), BE888744 (1287-1756)
Coding sequence: 124-525 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
GGCAGAAGAG GAAGATTTCT GAAGAGTGCA GCTGCCTGAA CCGAGCCCTG CCGAACAGCT    60
GAGAATTGCA CTGCAACCAT GAGTGAGAAC AATAAGAATT CCTTGGAGAG CAGCCTACGG   120
CAACTAAAAT GCCATTTCAC CTGGAACTTG ATGGAGGGAG AAAACTCCTT GGATGATTTT   180
GAAGACAAAG TATTTTACCG GACTGAGTTT CAGAATCGTG AATTCAAAGC CACAATGTGC   240
AACCTACTGG CCTATCTAAA GCACCTCAAA GGGCAAAACG AGGCAGCCCT GGAATGCTTA   300
CGTAAAGCTG AAGAGTTAAT CCAGCAAGAG CATGCTGACC AGGCAGAAAT CAGAAGTCTG   360
GTCACCTGGG GAAACTATGC CTGGGTCTAC TATCACATGG GCCGACTCTC AGACGTTCAG   420
ATTTATGTAG ACAAGGTGAA ACATGTCTGT GAGAAGTTTT CCAGTCCCTA TAGAATTGAG   480
AGTCCAGAGC TTGACTGTGA GGAAGGGTGG ACACGGTTAA AGTGTGGARG AAACCAAAAT   540
GAAAGAGCGA AGGTGTGCTT TGAGAAGGCT CTGGAAAAGA AGCCAAAGAA CCCAGAATTC   600
ACCTCTGGAC TGGCAATAGC AAGCTACCGT CTGGACAACT GGCCACCATC TCAGAACGCC   660
ATTGACCCTC TGAGGCAAGC CATTCGGCTG AATCCTGACA ACCAGTACCT TAAAGTCCTC   720
CTGGCTCTGA AGCTTCATAA GATGCGTGAA GAAGGTGAAG AGGAAGGTGA AGGAGAGAAG   780
TTAGTTGAAG AAGCCTTGGA GAAAGCCCCA GGTGTAACAG ATGTACTTCG CAGTGCAGCC   840
AAGTTTTATC GAAGAAAAGA TGAGCCAGAC AAAGCGATTG AACTGCTTAA AAAGGCTTTA   900
GAATACATAC CAAACAATGC CTACCTGCAT TGCCAAATTG GGTGCTGCTA TAGGGCAAAA   960
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GTCTTCCAAG TAATGAATCT AAGAGAGAAT GGAATGTATG GGAAAAGAAA GTTACTGGAA  1020
CTAATAGGAC ACGCTGTGGC TCATCTGAAG AAAGCTGATG AGGCCAATGA TAATCTCTTC  1080
CGTGTCTGTT CCATTCTTGC CAGCCTCCAT GCTCTAGCAG ATCAGTATGA AGAAGCAGAG  1140
TATTACTTCC AAAAGGAATT CAGTAAAGAG CTTACTCCTG TAGCGAAACA ACTGCTCCAT  1200
CTGCGGTATG GCAACTTTCA GCTGTACCAA ATGAAGTGTG AAGACAAGGC CATCCACCAC  1260
TTTATAGAGG GTGTAAAAAT AAACCAGAAA TCAAGGGAGA AAGAAAAGAT GAAAGACAAA  1320
CTGCAAAAAA TTGCCAAAAT GCGACTTTCT AAAAATGGAG CAGATTCTGA GGCTTTGCAT  1380
GTCTTGGCAT TCCTTCAGGA GCTGAATGAA AAAATGCAAC AAGCAGATGA AGACTCTGAG  1440
AGGGGTTTGG AGTCTGGAAG CCTCATCCCT TCAGCATCAA GCTGGAATGG GGAATGAAGA  1500
ATAGAGATGT GGTGCCCACT AGGCTACTGC TGAAAGGGAG CTGAAATTCC TCCACAAGTT  1560
GGTATTCAAA ATATGTAATG ACTGGTATGG CAAAAGATTG GACTAAGACA CTGGCCATAC  1620
CACTGGACAG GGTTATGTTA AACCTGAATT GCTGGGTCTT AAAAGAGCCC AAGGAGTTCT  1680
GGGAGAGGGA CAGATTGGGG GGTCGTCCAG GGCTGCGCTA AATTATTCTC AATGATTTGT  1740
CTCTTTGCGG AACTTC
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Seq ID NO: 201 Protein sequence:
Protein Accession #: AAA59191

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1          11         21         31         41         51
|          |          |          |          |          |
MSENNKNSLE SSLRQLKCHF TWNLMEGENS LDDFEDKVFY RTEFQNREFK ATMCNLLAYL    60
KHLKGQNEAA LECLRKAEEL IQQEHADQAE IRSLVTWGNY AWVYYHMGRL SDVQIYVDKV   120
KHVCEKFSSP YRIESPELDC EEGWTRLKCG GNQNERAKVC FEKALEKKPK NPEFTSGLAI   180
ASYRLDNWPP SQNAIDPLRQ AIRLNPDNQY LKVLLALKLH KMREEGEEEG EGEKLVEEAL   240
EKAPGVTDVL RSAAKFYRRK DEPDKAIELL KKALEYIPNN AYLHCQIGCC YRAKVFQVMN   300
LRENGMYGKR KLLELIGHAV AHLKKADEAN DNLFRVCSIL ASLHALADQY EDAEYYFQKE   360
FSKELTPVAK QLLHLRYGNF QLYQMKCEDK AIHHFIEGVK INQKSREKEK MKDKLQKIAK   420
MRLSKNGADS EALHVLAFLQ ELNEKMQQAD EDSERGLESG SLIPSASSWN GE
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Seq ID NO: 202 DNA sequence
Nucleic Acid Accession #: NM_003090
Coding sequence: 57-824 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
GAATTCCGCG GGAGGCCACG GGCTTTCCAC AGCGCGGGGG AACGGGAGGC TGCAGGATGG    60
TCAAGCTGAC GGCGGAGCTG ATCGAGCAGG CGGCGCAGTA CACCAACGCG GTGCGCGACC   120
GGGAGCTGGA CCTCCGGGGG TATAAAATTC CCGTCATTGA AAATCTAGGT GCTACGTTAG   180
ACCAGTTTGA TGCTATTGAT TTTTCTGACA ATGAGATCAG GAAACTGGAT GGTTTTCCTT   240
TGTTGAGAAG ACTGAAAACA TTGTTAGTGA ACAACAACAG AATATGCCGT ATAGGTGAGG   300
GACTTGATCA GGCTCTGCCC TGTCTGACAG AACTCATTCT CACCAATAAT AGTCTCGTGG   360
AACTGGGTGA TCTGGACCCT CTGGCATCTC TCAAATCGCT GACTTACCTA AGTATCCTAA   420
GAAATCCGGT AACCAATAAG AAGCATTACA GATTGTATGT GATTTATAAA GTTCCGCAAG   480
TCAGAGTACT GGATTTCCAG AAAGTGAAAC TAAAAGAGCG TCAGGAAGCA GAGAAAATGT   540
TCAAGGGCAA ACGGGGTGCA CAGCTTGCAA AGGATATTGC CAGGAGAAGC AAAACTTTTA   600
ATCCAGGTGC TGGTTTGCCA ACTGACAAAA AGAGAGGTGG GCCATCTCCA GGGGATGTAG   660
AAGCAATCAA GAATGCCATA GCAAATGCTT CAACTCTGGC TGAAGTGGAG AGGCTGAAGG   720
GGTTGCTGCA GTCTGGTCAG ATCCCTGGCA GAGAACGCAG ATCAGGGCCC ACTGATGATG   780
GTGAAGAAGA GATGGAAGAA GACACAGTCA CAAACGGGTC CTGAGCAGTG AGGCAGATGT   840
ATAATAATAG GCCCTCTTGG AACAAGTCTT GCTTTTCGAA CATGGTATAA TAGCCTTGTT   900
TGTGTTAGCA AAGTGGAATC TATCAGCATT GTTGAAATGC TTAAGACTGC TGCTGATAAT   960
TTTGTAATAT AAGTTTTGAA ATCTAAATGT CAATTTTCTA CAAATTATAA AAATAAACTC  1020
CACTCTCTAT GCTAAAAAAA AAAAAAAGGA ATTC
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Seq ID NO: 203 Protein sequence:
Protein Accession #: NP_003081.1

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1          11         21         31         41         51
|          |          |          |          |          |
MVKLTAELIE QAAQYTNAVR DRELDLRGYK IPVIENLGAT LDQFDAIDFS DNEIRKLDGF    60
PLLRRLKTLL VNNNRICRIG EGLDQALPCL TELILTNNSL VELGDLDPLA SLKSLTYLSI   120
LRNPVTNKKH YRLYVIYKVP QVRVLDFQKV KLKERQEAEK MFKGKRGAQL AKDIARRSKT   180
FNPGAGLPTD KKRGGPSPGD VEAIKNAIAN ASTLAEVERL KGLLQSGQIP GRERRSGPTD   240
DGEEEMEEDT VTNGS
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Seq ID NO: 204 DNA sequence
Nucleic Acid Accession #: NM_017643.1
Coding sequence: 169-1401 (underlined sequences correspond to start and stop codons)

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1          11         21         31         41         51
|          |          |          |          |          |
AATAGCAATA GCTTTATAGC AGCTCCGGTT ACCTGTTTTA AACATGGAAG GAGAGTCGCT    60
CCCAGATAGC CCTCACGAGT GGCCCTGGAG CAGGGAGTGG TGGAGCAGAT CTTCCTTGTT   120
TGGGAGGAGC CTGAGGTGGA CCTCGCGTCC TGAGTCTGGA AGGCACCTAT GGGGACCTGC   180
TGGGGTGATA TCTCAGAAAA TGTGAGAGTA GAAGTTCCCA ATACAGACTG CAGCCTACCT   240
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ACCAAAGTCT TCTGGATTGC TGGAATTGTA AAATTAGCAG GTTACAATGC CCTTTTAAGA   300
TATGAAGGAT TTGAAAATGA CTCTGGTCTG GACTTCTGGT GCAATATATG TGGTTCTGAT   360
ATCCATCCAG TTGGTTGGTG TGCAGCCAGC GGAAAACCTC TTGTTCCTCC TAGAACTATT   420
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Seq ID NO: 205 Protein sequence:
Protein Accession #: NP_060113.1

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Protein Accession #: XP_059761.1

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MALMEVNLLS GFMVPSEAIS LSETVKKVEY DHGKLNLYLD SVNETQFCVN IPAVRNFKVS    60
NTQDASVSIV DYYEPRRQAV RSYNSEVKLS SCDLCSDVQG CRPCEDGASG SHHHSSVIFI   120
FCFKLLYFME LWL
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Seq ID NO: 210 DNA sequence
Nucleic Acid Accession #: NM_015472
Coding sequence: 258-1460 (underlined sequences correspond to start and stop codons)

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GACACACTCC TCTACAACAC CAGAGACTCC CAAACACAAG GCCTTATATT GACTCATTTC    60
AGCTCACATC CTGGCGACTC TCAAGAGAGA AACCTCAGAG TGACTAAAAT CTCCATAATG   120
AGAAGACATG TACATTCAGT ATCTATTTTG GCATTTTCCC CAATACATCT CTGCTCATCT   180
GACTCTTATC TTGGCATCTG CTTCCTGGTG GATCTGAACT GACCCATAAG CCACGCTTAC   240
TGGTGATTTT CCAGAAGATG AATCCGGCCT CGGCGCCCCC TCCGCTCCCG CCGCCTGGGC   300
AGCAAGTGAT CCACGTCACG CAGGACCTAG ACACAGACCT CGAAGCCCTC TTCAACTCTG   360
TCATGAATCC GAAGCCTAGC TCGTGGCGGA AGAAGATCCT GCCGGAGTCT TTCTTTAAGG   420
AGCCTGATTC GGGCTCGCAC TCGCGCCAGT CCAGCACCGA CTCGTCGGGC GGCCACCCGG   480
GGCCTCGACT GGCTGGGGGT GCCCAGCATG TCCGCTCGCA CTCGTCGCCC GCGTCCCTGC   540
AGCTGGGCAC CGGCGCGGGT GCTGCGGGTA GCCCCGCGCA GCAGCACGCG CACCTCCGCC   600
AGCAGTCCTA CGACGTGACC GACGAGCTGC CACTGCCCCC GGGCTGGGAG ATGACCTTCA   660
CGGCCACTGG CCAGAGGTAC TTCCTCAATC ACATAGAAAA AATCACCACA TGGCAAGACC   720
CTAGGAAGGC GATGAATCAG CCTCTGAATC ATATGAACCT CCACCCTGCC GTCAGTTCCA   780
CACCAGTGCC TCAGAGGTCC ATGGCAGTAT CCCAGCCAAA TCTCGTGATG AATCACCAAC   840
ACCAGCAGCA GATGGCCCCC AGTACCCTGA GCCAGCAGAA CCACCCCACT CAGAACCCAC   900
CCGCAGGGCT CATGAGTATG CCCAATGCGC TGACCACTCA GCAGCAGCAG CAGCAGAAAC   960
TGCGGCTTCA GAGAATCCAG ATGGAGAGAG AAAGGATTCG AATGCGCCAA GAGGAGCTCA  1020
TGAGGCAGGA AGCTGCCCTC TGTCGACAGC TCCCCATGGA AGCTGAGACT CTTGCCCCAG  1080
TTCAGGCTGC TGTCAACCCA CCCACGATGA CCCCAGACAT GAGATCCATC ACTAATAATA  1140
GCTCAGATCC TTTCCTCAAT GGAGGGCCAT ATCATTCGAG GGAGCAGAGC ACTGACAGTG  1200
GCCTGGGGTT AGGGTGCTAC AGTGTCCCCA CAACTCCGGA GGACTTCCTC AGCAATGTGG  1260
ATGAGATGGA TACAGGAGAA AACGCAGGAC AAACACCCAT GAACATCAAT CCCCAACAGA  1320
CCCGTTTCCC TGATTTCCTT GACTGTCTTC CAGGAACAAA CGTTGACTTA GGAACTTTGG  1380
AATCTGAAGA CCTGATCCCC CTCTTCAATG ATGTAGAGTC TGCTCTGAAC AAAAGTGAGC  1440
CCTTTCTAAC CTGGCTGTAA TCACTACCAT TGTAACTTGG ATGTAGCCAT GACCTTACAT  1500
TTCCTGGGCC TCTTGGAAAA AGTGATGGAG CAGAGCAAGT CTGCAGGTGC ACCACTTCCC  1560
GCCTCCATGA CTCGTGCTCC CTCCTTTTTA TGTTGCCAGT TTAATCATTG CCTGGTTTTG  1620
ATTGAGAGTA ACTTAAGTTA AACATAAATA AATATTCTAT TTTCATTTTC
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Seq ID NO: 211 Protein sequence:
Protein Accession #: NP_056287.1

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1          11         21         31         41         51
|          |          |          |          |          |
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HSRQSSTDSS GGHPGPRLAG GAQHVRSHSS PASLQLGTGA GAAGSPAQQH AHLRQQSYDV   120
TDELPLPPGW EMTFTATGQR YFLNHIEKIT TWQDPRKAMN QPLNHMNLHP AVSSTPVPQR   180
SMAVSQPNLV MNHQHQQQMA PSTLSQQNHP TQNPPAGLMS MPNALTTQQQ QQQKLRLQRI   240
QMERERIRMR QEELMRQEAA LCRQLPMEAE TLAPVQAAVN PPTMTPDMRS ITNNSSDPFL   300
NGGPYHSREQ STDSGLGLGC YSVPTTPEDF LSNVDEMDTG ENAGQTPMNI NPQQTRFPDF   360
LDCLPGTNVD LGTLESEDLI PLFNDVESAL NKSEPFLTWL
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Seq ID NO: 212 DNA sequence
Nucleic Acid Accession #: NM_018174
Coding sequence: 176-2194 (underlined sequences correspond to start and stop codons)

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TCTGCCACTC AGCCGCGGCC CCGTGCCAGC CAAACCCACC GTGCTCTTCG AGAAGATGGG   180
CGTGGGCCGG CTGGACATGT ATGTGCTGCA CCCGCCCTCC GCCGGCGCCG AGCGCACGCT   240
GGCCTCTGTG TGCGCCCTGC TGGTGTGGCA CCCCGCCGGC CCCGGCGAGA AGGTGGTGCG   300
CGTGCTGTTC CCCGGTTGCA CCCCGCCCGC CTGCCTCCTG GACGGCCTGG TCCGCCTGCA   360
GCACTTGAGG TTCCTGCGAG AGCCCGTGGT GACGCCCCAG GACCTGGAGG GGCCGGGGCG   420
AGCCGAGAGC AAAGAGAGCG TGGGCTCCCG GGACAGCTCG AAGAGAGAGG GCCTCCTGGC   480
CACCCACCCT AGACCTGGCC AGGAGCGCCC TGGGGTGGCC CGCAAGGAGC CAGCACGGGC   540
TGAGGCCCCA CGCAAGACTG AGAAAGAAGC CAAGACCCCC CGGGAGTTGA AGAAAGACCC   600
CAAACCGAGT GTCTCCCGGA CCCAGCCGCG GGAGGTGCGC CGGGCAGCCT CTTCTGTGCC   660
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CCACTCTGGC TTCCCGCCGG TGGCAAATGG ACCCCGCAGC CCGCCCAGCC TCCGATGTGG   780
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CAGCCTGGAG CTGGGGCCGA TCCCAGCCGG GGAGGAGAAG GCACTGGAGC TGCCTTTGGC   900
CGCCAGCTCA ATCCCAAGGC CACGCACACC CTCCCCTGAG TCCCACCGGA GCCCCGCAGA   960
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ACCCACAGTG ACCACACCCA CGGTGACCAC GCCCTCACTA CCCGCAGAGG TGGGCTCCCC  1080
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GGCTTCCCCA CACGATGTGG ACCTGTGCCT GGTGTCACCC TGTGAATTTG AGCATCGCAA  1260
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GTCACAGGAA CGGGCAGGTG GGCTGGGGGC CGAGGAGACG CCACCCACAT CGGTCAGCGA  1380
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AGACGAAGAC ACAGAGGGCT TTGGAGTCCC TCGCCACGAC CCTTTGCCTG ACCCCCTCAA  1500
GGTCCCCCCA CCACTGCCTG ACCCATCCAG CATCTGCATG GTGGACCCCG AGATGCTGCC  1560
CCCCAAGACA GCACGGCAAA CGGAGAACGT CAGCCGCACC CGGAAGCCCC TGGCCCGCCC  1620
CAACTCACGC GCTGCCGCCC CCAAAGCCAC TCCAGTGGCT GCTGCCAAAA CCAAGGGGCT  1680
TGCTGGTGGG GACCGTGCCA GCCGACCACT CAGTGCCCGG AGTGAGCCCA GTGAGAAGGG  1740
AGGCCGGGCA CCCCTGTCCA GAAAGTCCTC AACCCCCAAG ACTGCCACTC GAGGCCCGTC  1800
GGGGTCAGCC AGCAGCCGGC CCGGGGTGTC AGCCACCCCA CCCAAGTCCC CGGTCTACCT  1860
GGACCTGGCC TACCTGCCCA GCGGGAGCAG CGCCCACCTG GTGGATGAGG AGTTCTTCCA  1920
GCGCGTGCGC GCGCTCTGCT ACGTCATCAG TGGCCAGGAC CAGCGCAAGG AGGAAGGCAT  1980
GCGGGCCGTC CTGGACGCGC TACTGGCCAG CAAGCAGCAT TGGGACCGTG ACCTGCAGGT  2040
GACCCTGATC CCCACTTTCG ACTCGGTGGC CATGCATACG TGGTACGCAG AGACGCACGC  2100
CCGGCACCAG GCGCTGGGCA TCACGGTGTT GGGCAGCAAC GGCATGGTGT CCATGCAGGA  2160
TGACGCCTTC CCGGCCTGCA AGGTGGAGTT CTAGCCCCAT CGCCGACACG CCCCCCACTC  2220
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Seq ID NO: 213 Protein sequence:
Protein Accession #: NP_060644.1

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RAEAPRKTEK EAKTPRELKK DPKPSVSRTQ PREVRRAASS VPNLKKTNAQ AAPKPRKAPS   180
TSHSGFPPVA NGPRSPPSLR CGEASPPSAA CGSPASQLVA TPSLELGPIP AGEEKALELP   240
LAASSIPRPR TPSPESHRSP AEGSERLSLS PLRGGEAGPD ASPTVTTPTV TTPSLPAEVG   300
SPHSTEVDES LSVSFEQVLP PSAPTSEAGL SLPLRGPRAR RSASPHDVDL CLVSPCEFEH   360
RKAVPMAPAP ASPGSSNDSS ARSQERAGGL GAEETPPTSV SESLPTLSDS DPVPLAPGAA   420
DSDEDTEGFG VPRHDPLPDP LKVPPPLPDP SSICMVDPEM LPPKTARQTE NVSRTRKPLA   480
RPNSRAAAPK ATPVAAAKTK GLAGGDRASR PLSARSEPSE KGGRAPLSRK SSTPKTATRG   540
PSGSASSRPG VSATPPKSPV YLDLAYLPSG SSAHLVDEEF FQRVRALCYV ISGQDQRKEE   600
GMRAVLDALL ASKQHWDRDL QVTLIPTFDS VAMHTWYAET HARHQALGIT VLGSNGMVSM   660
QDDAFPACKV EF
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Seq ID NO: 214 DNA sequence
Nucleic Acid Accession #: NM_002019.1
Coding sequence: 250-4266 (underlined sequences correspond to start and stop codons)

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TCGGGTGCAG CGGCCAGCGG GCCTGGCGGC GAGGATTACC CGGGGAAGTG GTTGTCTCCT   120
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GGCTGGAGCC GCGAGACGGG CGCTCAGGGC GCGGGGCCGG CGGCGGCGAA CGAGAGGACG   180
GACTCTGGCG GCCGGGTCGT TGGCCGGGGG AGCGCGGGCA CCGGGCGAGC AGGCCGCGTC   240
GCGCTCACCA TGGTCAGCTA CTGGGACACC GGGGTCCTGC TGTGCGCGCT GCTCAGCTGT   300
CTGCTTCTCA CAGGATCTAG TTCAGGTTCA AAATTAAAAG ATCCTGAACT GAGTTTAAAA   360
GGCACCCAGC ACATCATGCA AGCAGGCCAG ACACTGCATC TCCAATGCAG GGGGGAAGCA   420
GCCCATAAAT GGTCTTTGCC TGAAATGGTG AGTAAGGAAA GCGAAAGGCT GAGCATAACT   480
AAATCTGCCT GTGGAAGAAA TGGCAAACAA TTCTGCAGTA CTTTAACCTT GAACACAGCT   540
CAAGCAAACC ACACTGGCTT CTACAGCTGC AAATATCTAG CTGTACCTAC TTCAAAGAAG   600
AAGGAAACAG AATCTGCAAT CTATATATTT ATTAGTGATA CAGGTAGACC TTTCGTAGAG   660
ATGTACAGTG AAATCCCCGA AATTATACAC ATGACTGAAG GAAGGGAGCT CGTCATTCCC   720
TGCCGGGTTA CGTCACCTAA CATCACTGTT ACTTTAAAAA AGTTTCCACT TGACACTTTG   780
ATCCCTGATG GAAAACGCAT AATCTGGGAC AGTAGAAAGG GCTTCATCAT ATCAAATGCA   840
ACGTACAAAG AAATAGGGCT TCTGACCTGT GAAGCAACAG TCAATGGGCA TTTGTATAAG   900
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CTATGGATAT TGGCTAGTTT TGCCTTTATT AAGCAAATTC ATTTCAGCCT GAATGTCTGC  7620
CTATATATTC TCTGCTCTTT GTATTCTCCT TTGAACCCGT TAAAACATCC TGTGGCACTC
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Seq ID NO: 215 <u>Protein sequence:</u>
Protein Accession #: NP_002010.1

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WSLPEMVSKE SERLSITKSA CGRNGKQFCS TLTLNTAQAN HTGFYSCKYL AVPTSKKKET   120
ESAIYIFISD TGRPFVEMYS EIPEIIHMTE GRELVIPCRV TSPNITVTLK KFPLDTLIPD   180
GKRIIWDSRK GFIISNATYK EIGLLTCEAT VNGHLYKTNY LTHRQTNTII DVQISTPRPV   240
KLLRGHTLVL NCTATTPLNT RVQMTWSYPD EKNKRASVRR RIDQSNSHAN IFYSVLTIDK   300
MQNKDKGLYT CRVRSGPSFK SVNTSVHIYD KAFITVKHRK QQVLETVAGK RSYRLSMKVK   360
AFPSPEVVWL KDGLPATEKS ARYLTRGYSL IIKDVTEEDA GNYTILLSIK QSNVFKNLTA   420
TLIVNVKPQI YEKAVSSFPD PALYPLGSRQ ILTCTAYGIP QPTIKWFWHP CNHNHSEARC   480
DFCSNNEESF ILDADSNMGN RIESITQRMA IIEGKNKMAS TLVVADSRIS GIYICIASNK   540
VGTVGRNISF YITDVPNGFH VNLEKMPTEG EDLKLSCTVN KFLYRDVTWI LLRTVNNRTM   600
HYSISKQKMA ITKEHSITLN LTIMNVSLQD SGTYACRARN VYTGEEILQK KEITIRDQEA   660
PYLLRNLSDH TVAISSSTTL DCHANGVPEP QITWFKNNHK IQQEPGIILG PGSSTLFIER   720
VTEEDEGVYH CKATNQKGSV ESSAYLTVQG TSDKSNLELI TLTCTCVAAT LFWLLLTLLI   780
RKMKRSSSEI KTDYLSIIMD PDEVPLDEQC ERLPYDASKW EFARERLKLG KSLGRGAFGK   840
VVQASAFGIK KSPTCRTVAV KMLKEGATAS EYKALMTELK ILTHIGHHLN VVNLLGACTK   900
QGGPLMVIVE YCKYGNLSNY LKSKRDLFFL NKDAALHMEP KKEKMEPGLE QGKKPRLDSV   960
TSSESFASSG FQEDKSLSDV EEEEDSDGFY KEPITMEDLI SYSFQVARGM EFLSSRKCIH  1020
RDLAARNILL SENNVVKICD FGLARDIYKN PDYVRKGDTR LPLKWMAPES IFDKIYSTKS  1080
DVWSYGVLLW EIFSLGGSPY PGVQMDEDFC SRLREGMRMR APEYSTPEIY QIMLDCWHRD  1140
```

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PKERPRFAEL VEKLGDLLQA NVQQDGKDYI PINAILTGNS GFTYSTPAFS EDFFKESISA  1200
PKFNSGSSDD VRYVNAFKFM SLERIKTFEE LLPNATSMFD DYQGDSSTLL ASPMLKRFTW  1260
TDSKPKASLK IDLRVTSKSK ESGLSDVSRP SFCHSSCGHV SEGKRRFTYD HAELERKIAC  1320
CSPPPDYNSV VLYSTPPI
```

Seq ID NO: 216 DNA sequence
Nucleic Acid Accession #: NM_024689
Coding sequence: 76-624 (underlined sequences correspond to start and stop codons)

```
1          11         21         31         41         51
|          |          |          |          |          |
CTCTTTGGCC AAGCCCTGCC TCTGTACAGC CTCGAGTGGA CAGCCAGAGG CTGCAGCTGG    60
AGCCCAGAGC CCAAGATGGA GCCCCAGCTG GGGCCTGAGG CTGCCGCCCT CCGCCCTGGC   120
TGGCTGGCCC TGCTGCTGTG GGTCTCAGCC CTGAGCTGTT CTTTCTCCTT GCCAGCTTCT   180
TCCCTTTCTT CTCTGGTGCC CCAAGTCAGA ACCAGCTACA ATTTTGGAAG GACTTTCCTC   240
GGTCTTGATA AATGCAATGC CTGCATCGGG ACATCTATTT GCAAGAAGTT CTTTAAAGAA   300
GAAATAAGAT CTGACAACTG GCTGGCTTCC CACCTTGGAC TGCCTCCCGA TTCCTTGCTT   360
TCTTATCCTG CAAATTACTC AGATGATTCC AAAATCTGGC GCCCTGTGGA GATCTTTAGA   420
CTGGTCAGCA AATATCAAAA CGAGATCTCA GACAGGAAAA TCTGTGCCTC TGCATCAGCC   480
CCAAAGACCT GCAGCATTGA GCGTGTCCTG CGGAAAACAG AGAGGTTCCA GAAATGGCTG   540
CAGGCCAAGC GCCTCACGCC GGACCTGGTG CAGGACTGTC ACCAGGGCCA GAGAGAACTA   600
AAGTTCCTGT GTATGCTGAG ATAACACCAG TGAAAAAGCC TGGCATGGAG CCCAGCACTG   660
AGAACTTCCA GAAAGTGTTA GCCTTCTCCC AACTGTGTTA TACCAACCAC ATTTTCAAAT   720
AGTAATCATT AAAGAGGCTT CTGCATCAAA CCTTCACATG CAGCTCCCAT GCCACCCTCC   780
AGAATTCACC AACACACAGG CCCACCAGCA ACAGGCTACC TTTGCACAAT ATTCTCTGAT   840
GACAACTCCA AAGCCCCGGC TCTTTCCACC ACACTGTGGT CCCCTAGATG GGGCTGTTGC   900
TGAGCCCACC CCAATCCAGA TGTGATCCCC CTGTGATCTA CTTCTGGCAA GATTCTCAGT   960
CTGGACAGGT CTTCCCTATG AGATAGAACC TGATAAGGAG CTAGGGCAAT TCTGACAACA  1020
TTACCAAAGG CCCACATAAC TTCTAAATTT TGGTCTGGTC TGAAGGAAAA CCTGTTCTCG  1080
CCCTAGTGAT GGATGAACTC TCTTATCTCT GGCTTCTAGA GGGAAAAAAA AAGCATACCT  1140
CTTTTACTTT TTAAGTACCT CCATCAGAGT CATGAAATCA CCTGTCAAGA CTATCTATCT  1200
TTTATGTTTC CATTCTGGTA AGAACTCTTT AAATGAGGAC ACTGCTGATT GCTGGTGATG  1260
TTTTTTGAGC AAACACTCGG GGGTATGGAT GAAAGCCAAT CGCAGGTCAA ATGACTCCTT  1320
GGGGAAGCTA CTTCTCCTCT ATTCAGATTT CACTAAAATC TTCCAAGATG AAAGCAAATC  1380
TAGATTTCGG TCTTCATTGC TGTCCATTTT TGTAATGAAC GAGTGTTTTT CCTTTAGCTA  1440
GTGTATCAGG CAGGGTTCTA CCAGAGAAAC AGAACCAGTA GGAGATACAT ATACATGTCC  1500
AGATTTATTT CAAAGAATTG ATTTACATGA TTGTGGGGAT TGGCAAGTCC AAAATCCATA  1560
TGGTAGGCCT GCAATCTGTA AACCTTTGGG CAGGAGCTGA TGCTGTAGTT TGCAGATAGA  1620
ATTCCTTGTT CCTTAAAAAA ATCTGTTTTT GTTCTTAAGG GCTTTGAATG ATTGGATCAG  1680
GCCCACCCAG ATTACCTAGA TAATCTCTTT TACTTAAAGT AAACTGATTG TAGGTGCTAA  1740
TCACATCTAT GAAATGCCTT CACAGCAACA CCTAGATTAG CATTCAATTG AATAACTGGG  1800
GAATACAGCC TAGCCAAGTT GACACATAAA ATTAACCATC ACAGCAACAT GCCTGCTAAA  1860
TTTTATCGAC CGTCTTCAGA CTGTTAAGGA TTGTGGTAGA GAACTGTGAC AGCCACTCTC  1920
AGCATCACCC TGAACCAAAG GCCCCTATCA AGTAACAATA TAGCCAAGCA AAATTCCAGT  1980
CAATAGAGAC ATTGACTGGT TGGCTGGCTT CCCAAGGGAT AGCACCAGAC AAGAAATGCA  2040
AGGATGAGGA AACCAGGCAC GGGAGAGGGA GGGGCAACAG AGGTCCAGGG TTTGGTTATC  2100
TTTTTATTTT TCACTGGGAG GTGGTAAGTT AGCCCTGTTG CCCATGTATG CAGATGGGAG  2160
AAGTGATTTA GAAACTCCAA AGCAATTGGT AATCCCCAAA ATGGGTGTAT CTGGTTTGAA  2220
ATGAAACCTT ATTTTATTGG AAATGGTTGG TTTCCCAATT CTGTTTGCCA TTGGCCAATA  2280
TAATTGTGGG TTTGCACATG GCCAGCACAT GCCAAACAGA AGTAGACAAA GGTCTCACTC  2340
TGTAAGTGGG ACCTTGGGGA GGAGCTGCCT CCATCATAAA GGGAGGGGTT AGTAAAAATG  2400
GTCTCTTAAG CCTGTTCCTG CTACAGTTAT AGAGGTTGCT CAGAACCTTC TCAGCAAATA  2460
TAGCAGTTAT CTATTGTTGT GTATTAAACC ATTTCAACAC AT
```

Seq ID NO: 217 Protein sequence:
Protein Accession #: NP_078965.1

```
1          11         21         31         41         51
|          |          |          |          |          |
MEPQLGPEAA ALRPGWLALL LWVSALSCSF SLPASSLSSL VPQVRTSYNF GRTFLGLDKC    60
NACIGTSICK KFFKEEIRSD NWLASHLGLP PDSLLSYPAN YSDDSKIWRP VEIFRLVSKY   120
QNEISDRKIC ASASAPKTCS IERVLRKTER FQKWLQAKRL TPDLVQDCHQ GQRELKFLCM   180
LR
```

Seq ID NO: 218 DNA sequence
Nucleic Acid Accession #: AF075027.1
Coding sequence: 3-269 (underlined sequences correspond to start and stop codons)

```
1          11         21         31         41         51
|          |          |          |          |          |
GATTAATTAA GTGCTTTAAA CGGTCTTGGT AAATATTCCG CGGGAGCTGG GGAGGACCGT    60
TGGGATGGCT GTAGCTTGAG TTGAATTTTA ACTGTCCTCA TTCTGGGTTT TGTCGCTCTG   120
CTTTCTGTGC CAAGGTGCTG TGTTACGGGA GAGAGTGACT GGAAAGTAAC AAAGCTGAAT   180
CTTTCTCCCT GGAGTAAGGC CGAAGACTGG ATTACTACAC GCCTAGACGT GACACTACAC   240
CCATAGATCT CATGCATCAT TAATGCCATA TGACATTGCC ATTTTCTTTC TCAGTTCACG   300
GACAAAAGTG GTGGGTTTTC ATTGTCTTCA CTGATTGTCA ATGCATTAAT AAAGAAGATG   360
```

```
TGTGGT
```

Seq ID NO: 219 Protein sequence:
Protein Accession #: AF075027

```
1          11         21         31         41         51
|          |          |          |          |          |
ERKWQCHMAL MMHEIYGCSV TSRRVVIQSS ALLQGERFSF VTFQSLSPVT QHLGTESRAT    60
KPRMRTVKIQ LKLQPSQRSS PAPAEYLPRP FKALN
```

Seq ID NO: 220 DNA sequence
Nucleic Acid Accession #: AL133411.8
Coding sequence: 1-1395(underlined sequences correspond to start and stop codons)

```
1          11         21         31         41         51
|          |          |          |          |          |
ATGGGCAAGG ACTTCATGAC TAAAACACTA AAAGCAATGG CAACAAAAGC CAAAATTGAC    60
AAATGGGATC TAATCAAATT AAAGAGCTTC CGCACAGCAA AAGAAACTAT TATCAGAGTG   120
AACAGGCAAC CTACAGAATG GGAGAAAAAT TTTGCAATGT ATCCATCTGA CAAAGGGCTG   180
ACATCCAGAA TCTATAAGGA ACTTAAACAA TTTTACAAGA AAAAACCAAA CAACGCCATC   240
AAAAAGGACA TGGATGAAGC TGGAAACCGT CATTCTCAGA AAACTAACAC AGGAACAGAA   300
AACCAAACAC CACATGTTCT CACTCATAAG TGGGAGTTGA ACAATGAGAA CACATGGACA   360
CAGGGAGGGG AACATCACAC ACTGGGGCCT GTCAGAAGCC CCTCTGGCCT CCTGGCTGGC   420
CTTGAACATG CTGGGAGGAA ATTACAATTC ATCCATGGGC TGTTTACCCT TGAAAATGAA   480
TGGGCCCAGG AACAATCCAT AATACAAAAG AAATATGCAT TATGGATTGG AACCAAGCAG   540
ATCTGGGTGG CACAAACTCC TGGTGAATCT ATCTCCAGTT CACCAGCATT GCCTAATGTG   600
CTACCTTTAA ATGAAGATGT TAATAAGCAG GAAGAAAAGA ATGAAGATCA TACTCCCAAT   660
TATGCTCCTG CTAATGAGAA AAATGGCAAT TATTATAAAG ATATAAAACA ATATGTGTTC   720
ACAACACAAA ATCCAAATGG CACTGAGTCT GAAATATCTG TGAGAGCCAC AACTGACCTG   780
AATTTTGCTC TAAAAAACGA TAAAACTGTC AATGCAACTA CATATGAAAA ATCCACCATT   840
GAAGAAGAAA CAACTACTAG CGAACCCTCT CATAAAAATA TTCAAAGATC AACCCCAAAC   900
GTGCCTGCAT TTTGGACAAT GTTAGCTAAA GCTATAAATG GAACAGCAGT GGTCATGGAT   960
GATAAAGATC AATTATTTCA CCCAATTCCA GAGTCTGATG TGAATGCTAC ACAGGGAGAA  1020
AATCAGCCAG ATCTAGAGGA TCTGAAGATC AAAATAATGC TGGGAATCTC GTTGATGACC  1080
CTCCTCCTCT TTGTGGTCCT CTTGGCATTC TGTAGTGCTA CACTGTACAA ACTGAGGCAT  1140
CTGAGTTATA AAAGTTGTGA GAGTCAGTAC TCTGTCAACC CAGAGCTGGC CACGATGTCT  1200
TACTTTCATC CATCAGAAGG TGTTTCAGAT ACATCCTTTT CCAAGAGTGC AGAGAGCAGC  1260
ACATTTTTGG GTACCACTTC TTCAGATATG AGAAGATCAG GCACAAGAAC ATCAGAATCT  1320
AAGATAATGA CGGATATCAT TTCCATAGGC TCAGATAATG AGATGCATGA AAACGATGAG  1380
TCGGTTACCC GGTGA
```

Seq ID NO: 221 Protein sequence:
Protein Accession #: AL133411.8

```
1          11         21         31         41         51
|          |          |          |          |          |
MGKDFMTKTL KAMATKAKID KWDLIKLKSF RTAKETIIRV NRQPTEWEKN FAMYPSDKGL    60
TSRIYKELKQ FYKKKPNNAI KKDMDEAGNR HSQKTNTGTE NQTPHVLTHK WELNNENTWT   120
QGGEHHTLGP VRSPSGLLAG LEHAGRKLQF IHGLFTLENE WAQEQSIIQK KYALWIGTKQ   180
IWVAQTPGES ISSSPALPNV LPLNEDVNKQ EEKNEDHTPN YAPANEKNGN YYKDIKQYVF   240
TTQNPNGTES EISVRATTDL NFALKNDKTV NATTYEKSTI EEETTTSEPS HKNIQRSTPN   300
VPAFWTMLAK AINGTAVVMD DKDQLFHPIP ESDVNATQGE NQPDLEDLKI KIMLGISLMT   360
LLLFVVLLAF CSATLYKLRH LSYKSCESQY SVNPELATMS YFHPSEGVSD TSFSKSAESS   420
TFLGTTSSDM RRSGTRTSES KIMTDIISIG SDNEMHENDE SVTR
```

Seq ID NO: 222 DNA sequence
Nucleic Acid Accession #: AL050295.1
Coding sequence: 237-2073(underlined sequences correspond to start and stop codons)

```
1          11         21         31         41         51
|          |          |          |          |          |
GAAGGGGACA GAAGGCAGTT CACCTCTGCT CCCGACAGCC TGGGAACCCG CAAGAGCCCC    60
AGCATTTGAA GTCTGGTCTT GTGAAACCCC ACCCTCCTCT GGCTGTGTGA TTGAATGGGA   120
TGCCCTCGAG GTACACCTCA CCTGAGAGGG TTTTGGGCAG ATCAGCAGTA AGGTGTTAAA   180
TTTTAGAAGC CTGAAAACTC CAGAAGAGAA AGGCCAACCA ACTCAAACTT GAAGACATGA   240
AATCCCCAAG GAGAACCACT TTGTGCCTCA TGTTTATTGT GATTTATTCT TCCAAAGCTG   300
CACTGAACTG GAATTACGAG TCTACTATTC ATCCTTTGAG TCTTCATGAA CATGAACCAG   360
CTGGTGAAGA GGCACTGAGG CAAAAACGAG CCGTTGCCAC AAAAAGTCCT ACGGCTGAAG   420
AATACACTGT TAATATTGAG ATCAGTTTTG AAAATGCATC CTTCCTGGAT CCTATCAAAG   480
CCTACTTGAA CAGCCTCAGT TTTCCAATTC ATGGGAATAA CACTGACCAA ATTACTGACA   540
TTTTGAGCAT AAATGTGACA ACAGTCTGCA GACCTGCTGG AAATGAAATC TGGTGCTCCT   600
GCGAGACAGG TTATGGGTGG CCTCGGGAAA GGTGTCTTCA CAATCTCATT TGTCAAGAGC   660
GTGACGTCTT CCTCCCAGGG CACCATTGCA GTTGCCTTAA AGAACTGCCT CCCAATGGAC   720
```

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CTTTTTGCCT GCTTCAGGAA GATGTTACCC TGAACATGAG AGTCAGACTA AATGTAGGCT   780
TTCAAGAAGA CCTCATGAAC ACTTCCTCCG CCCTCTATAG GTCCTACAAG ACCGACTTGG   840
AAACAGCGTT CCGGAAGGGT TACGGAATTT TACCAGGCTT CAAGGGCGTG ACTGTGACAG   900
GGTTCAAGTC TGGAAGTGTG GTTGTGACAT ATGAAGTCAA GACTACACCA CCATCACTTG   960
AGTTAATACA TAAAGCCAAT GAACAAGTTG TACAGAGCCT CAATCAGACC TACAAAATGG  1020
ACTACAACTC CTTTCAAGCA GTTACTATCA ATGAAAGCAA TTTCTTTGTC ACACCAGAAA  1080
TCATCTTTGA AGGGGACACA GTCAGTCTGG TGTGTGAAAA GGAAGTTTTG TCCTCCAATG  1140
TGTCTTGGCG CTATGAAGAA CAGCAGTTGG AAATCCAGAA CAGCAGCAGA TTCTCGATTT  1200
ACACCGCACT TTTCAACAAC ATGACTTCGG TGTCCAAGCT CACCATCCAC AACATCACTC  1260
CAGGTGATGC AGGTGAATAT GTTTGCAAAC TGATATTAGA CATTTTTGAA TATGAGTGCA  1320
AGAAGAAAAT AGATGTTATG CCCATCCAAA TTTTGGCAAA TGAAGAAATG AAGGTGATGT  1380
GCGACAACAA TCCTGTATCT TTGAACTGCT GCAGTCAGGG TAATGTTAAT TGGAGCAAAG  1440
TAGAATGGAA GCAGGAAGGA AAAATAAATA TTCCAGGAAC CCCTGAGACA GACATAGATT  1500
CTAGCTGCAG CAGATACACC CTCAAGGCTG ATGGAACCCA GTGCCCAAGC GGGTCGTCTG  1560
GAACAACAGT CATCTACACT TGTGAGTTCA TCAGTGCCTA TGGAGCCAGA GGCAGTGCAA  1620
ACATAAAAGT GACATTCATC TCTGTGGCCA ATCTAACAAT AACCCCGGAC CCAATTTCTG  1680
TTTCTGAGGG ACAAAACTTT TCTATAAAAT GCATCAGTGA TGTGAGTAAC TATGATGAGG  1740
TTTATTGGAA CACTTCTGCT GGAATTAAAA TATACCAAAG ATTTTATACC ACGAGGAGGT  1800
ATCTTGATGG AGCAGAATCA GTACTGACAG TCAAGACCTC GACCAGGGAG TGGAATGGAA  1860
CCTATCACTG CATATTTAGA TATAAGAATT CATACAGTAT TGCAACCAAA GACGTCATTG  1920
TTCACCCGCT GCCTCTAAAG CTGAACATCA TGATTGATCC TTTGGAAGCT ACTGTTTCAT  1980
GCAGTGGTTC CCATCACATC AAGTGCTGCA TAGAGGAGGA TGGAGACTAC AAAGTTACTT  2040
TCCATATGGG TTCCTCATCC CTTCCTGCTG TAAAAAAAAA AAAAAAAAAA A
```

Seq ID NO: 223 Protein sequence:
Protein Accession #: CAB43394.1

```
1          11         21         31         41         51
|          |          |          |          |          |
MKSPRRTTLC LMFIVIYSSK AALNWNYEST IHPLSLHEHE PAGEEALRQK RAVATKSPTA    60
EEYTVNIEIS FENASFLDPI KAYLNSLSFP IHGNNTDQIT DILSINVTTV CRPAGNEIWC   120
SCETGYGWPR ERCLHNLICQ ERDVFLPGHH CSCLKELPPN GPFCLLQEDV TLNMRVRLNV   180
GFQEDLMNTS SALYRSYKTD LETAFRKGYG ILPGFKGVTV TGFKSGSVVV TYEVKTTPPS   240
LELIHKANEQ VVQSLNQTYK MDYNSFQAVT INESNFFVTP EIIFEGDTVS LVCEKEVLSS   300
NVSWRYEEQQ LEIQNSSRFS IYTALFNNMT SVSKLTIHNI TPGDAGEYVC KLILDIFEYE   360
CKKKIDVMPI QILANEEMKV MCDNNPVSLN CCSQGNVNWS KVEWKQEGKI NIPGTPETDI   420
DSSCSRYTLK ADGTQCPSGS SGTTVIYTCE FISAYGARGS ANIKVTFISV ANLTITPDPI   480
SVSEGQNFSI KCISDVSNYD EVYWNTSAGI KIYQRFYTTR RYLDGAESVL TVKTSTREWN   540
GTYHCIFRYK NSYSIATKDV IVHPLPLKLN IMIDPLEATV SCSGSHHIKC CIEEDGDYKV   600
TFHMGSSSLP AVKKKKKK
```

Seq ID NO: 224 DNA sequence
Nucleic Acid Accession #: NM_007268
Coding sequence: 46-1245 (underlined sequences correspond to start and stop codons)

```
1          11         21         31         41         51
|          |          |          |          |          |
GGTAGCAGGA GGCTGGAAGA AAGGACAGAA GTAGCTCTGG CTGTGATGGG GATCTTACTG    60
GGCCTGCTAC TCCTGGGGCA CCTAACAGTG GACACTTATG GCCGTCCCAT CCTGGAAGTG   120
CCAGAGAGTG TAACAGGACC TTGGAAAGGG GATGTGAATC TTCCCTGCAC CTATGACCCC   180
CTGCAAGGCT ACACCCAAGT CTTGGTGAAG TGGCTGGTAC AACGTGGCTC AGACCCTGTC   240
ACCATCTTTC TACGTGACTC TTCTGGAGAC CATATCCAGC AGGCAAAGTA CCAGGGCCGC   300
CTGCATGTGA GCCACAAGGT TCCAGGAGAT GTATCCCTCC AATTGAGCAC CCTGGAGATG   360
GATGACCGGA GCCACTACAC GTGTGAAGTC ACCTGGCAGA CTCCTGATGG CAACCAAGTC   420
GTGAGAGATA AGATTACTGA GCTCCGTGTC CAGAAACTCT CTGTCTCCAA GCCCACAGTG   480
ACAACTGGCA GCGGTTATGG CTTCACGGTG CCCCAGGGAA TGAGGATTAG CCTTCAATGC   540
CAGGCTCGGG GTTCTCCTCC CATCAGTTAT ATTTGGTATA AGCAACAGAC TAATAACCAG   600
GAACCCATCA AAGTAGCAAC CCTAAGTACC TTACTCTTCA AGCCTGCGGT GATAGCCGAC   660
TCAGGCTCCT ATTTCTGCAC TGCCAAGGGC CAGGTTGGCT CTGAGCAGCA CAGCGACATT   720
GTGAAGTTTG TGGTCAAAGA CTCCTCAAAG CTACTCAAGA CCAAGACTGA GGCACCTACA   780
ACCATGACAT ACCCCTTGAA AGCAACATCT ACAGTGAAGC AGTCCTGGGA CTGGACCACT   840
GACATGGATG GCTACCTTGG AGAGACCAGT GCTGGGCCAG GAAAGAGCCT GCCTGTCTTT   900
GCCATCATCC TCATCATCTC CTTGTGCTGT ATGGTGGTTT TTACCATGGC CTATATCATG   960
CTCTGTCGGA AGACATCCCA ACAAGAGCAT GTCTACGAAG CAGCCAGGGC ACATGCCAGA  1020
GAGGCCAACG ACTCTGGAGA AACCATGAGG GTGGCCATCT TCGCAAGTGG CTGCTCCAGT  1080
GATGAGCCAA CTTCCCAGAA TCTGGGCAAC AACTACTCTG ATGAGCCCTG CATAGGACAG  1140
GAGTACCAGA TCATCGCCCA GATCAATGGC AACTACGCCC GCCTGCTGGA CACAGTTCCT  1200
CTGGATTATG AGTTTCTGGC CACTGAGGGC AAAAGTGTCT GTTAAAAATG CCCCATTAGG  1260
CCAGGATCTG CTGACATAAT TGCCTAGTCA GTCCTTGCCT TCTGCATGGC CTTCTTCCCT  1320
GCTACCTCTC TTCCTGGATA GCCCAAAGTG TCCGCCTACC AACACTGGAG CCGCTGGGAG  1380
TCACTGGCTT TGCCCTGGAA TTTGCCAGAT GCATCTCAAG TAAGCCAGCT GCTGGATTTG  1440
GCTCTGGGCC CTTCTAGTAT CTCTGCCGGG GGCTTCTGGT ACTCCTCTCT AAATACCAGA  1500
GGGAAGATGC CCATAGCACT AGGACTTGGT CATCATGCCT ACAGACACTA TTCAACTTTG  1560
GCATCTTGCC ACCAGAAGAC CCGAGGGAGG CTCAGCTCTG CCAGCTCAGA GGACCAGCTA  1620
TATCCAGGAT CATTTCTCTT TCTTCAGGGC CAGACAGCTT TTAATTGAAA TTGTTATTTC  1680
ACAGGCCAGG GTTCAGTTCT GCTCCTCCAC TATAAGTCTA ATGTTCTGAC TCTCTCCTGG  1740
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TGCTCAATAA ATATCTAATC ATAACAGCAA AAAAAAAAAA AAAAAAA
```

Seq ID NO: 225 Protein sequence:
Protein Accession #: NP_009199.1

```
1          11         21         31         41         51
|          |          |          |          |          |
MGILLGLLLL GHLTVDTYGR PILEVPESVT GPWKGDVNLP CTYDPLQGYT QVLVKWLVQR    60
GSDPVTIFLR DSSGDHIQQA KYQGRLHVSH KVPGDVSLQL STLEMDDRSH YTCEVTWQTP   120
DGNQVVRDKI TELRVQKLSV SKPTVTTGSG YGFTVPQGMR ISLQCQARGS PPISYIWYKQ   180
QTNNQEPIKV ATLSTLLFKP AVIADSGSYF CTAKGQVGSE QHSDIVKFVV KDSSKLLKTK   240
TEAPTTMTYP LKATSTVKQS WDWTTDMDGY LGETSAGPGK SLPVFAIILI ISLCCMVVFT   300
MAYIMLCRKT SQQEHVYEAA RAHAREANDS GETMRVAIFA SGCSSDEPTS QNLGNNYSDE   360
PCIGQEYQII AQINGNYARL LDTVPLDYEF LATEGKSVC
```

Seq ID NO: 226 DNA sequence
Nucleic Acid Accession #: XM_64321
Coding sequence: 1-2079 (underlined sequences correspond to start and stop codons)

```
1          11         21         31         41         51
|          |          |          |          |          |
ATGGTCGCCA GTTCCGATCA AGACAGAGCC CCGTATCTTC CAGGGACACT AGACAAGATG    60
CCAGGACCAC GCCTCCGCTC TGCCCAGAGG CCAAAAGCAG CCCAACAAGA GCCCGGCATT   120
GAGCCTGGTA CTTACAGGGA GGGTGGTGGA GCCATCGTCC TCACGTATGC GCTGGGGATC   180
GGGGTTGGGA TCACGGGAAA CACAGTTCAA CAACCACCTC AACTCACTGA CTCCGCCAGC   240
ATCCGTCAGG AGGATGCCTT TGATAACAAA ATTGACATTG CTGAAGATGG TGGCCAGACA   300
CCATACGAAG CTACCTTGCA GCAAAGCTTT CAATACTCAC CTACAACAGA TCTTCCTCCA   360
CTCACAAATG GCTACCTGCC ATCAATCAGC ATGTATGAAA TTCAAACCAA ATACCAGTCG   420
CATAATCAAT ATCCTAATGG AAATTCTAAA CAGAAGACCA CATTAAATTC TAGAAAACCC   480
TTCCCCTCCA CAGCCACCAC TTCGGTACCA CAAACTGTGA TTCCAAAGAA GAGTGGCTCA   540
CCTGAAGTTA AACTAAAAAT AACCAAAACT ATCCAGAATG GCAGGGAATT GTTCAAGTCT   600
TCCCTTTGTG GAGACCTTTT AAATGAAGTA CAGGCAAGTG AGCACACGAA GTCAAAGCAT   660
GAAAGCAGAA AAGAAAAGAG GAAAAAACCC AAAAAGCATG ACTCATCAAG ATCTGAAGAG   720
CGCAAGTCAC ACAAAATCCC CAAATTAGAA CCAGAGGAAC AAAATAGACC AAATGAGAGG   780
GTTCACACCA TATCAGAAAA ACCAAGGGAA GATCCAGTAC TAAAAGAGGA AGCCCCAGTT   840
CAGCCAATAC TATCTTCTGT TCCAACAACA GAAGTGTCCA CTGGTGTTAA GTTTCAAGTT   900
GGTGATCTTG TGTGGTCCAA GGTGACGGTC ACACCCTGTT GGGTGCCCCG CCTGCGAGGA   960
CGGAGGAGCC ATCACTGTTC CAGCTGCCTG GAGATCTTGG TGCTGGTGCC AGCCCTCAGC  1020
CTCAAGAGGT CTTTCATGGT TTCTTCCTTG AAGTTCCTCA CCTCCACGGG CAAACAGAAG  1080
CCCACATTCA AGGGAACTGC CCAGATGGGC TGGTCACCTA TGGCCTCCAC GACCAATGTC  1140
TCCCTGCTCC TTGGTCATTG GGAAGGAACA GACCAGATGT CATCCAGGGG CCCGGAATTT  1200
GGGGGGCGCC GCTGGGTGTG GCAGCATCAG AAGCCTCAGA TCCGCATCTC CATCTGCCAC  1260
AGGCCAGGGA AGGAACCTCT GAGACTCAGT TTCCTACGAT GTGAAGTGGA GAGAAGAATC  1320
TCCTCTTTAG CCACCTCTCA GGGCTGCTGG TGTTCGCCCC CAGACCACGT CTGTGAGAAA  1380
TGCTTAGAAG ACTATGCAGG GCGCCGCCAT TTGACACTCA GAGCCCAGGA AGCCTTTCTT  1440
GGTCCAGACA GCAGGACTGG AAGCCTTAGA GCTGTCGGCA AGAGATACTG CAGGAACAGC  1500
CAGCACCAGA GATATCTCCT GCAAGGCCTC CTAGGTGGGT TCTTGGAAGA AAGGAATGCC  1560
AATGAATATG ATTGCAAGCT AGAGACGAGA GAAGCGGCGT CCTCAACTCC AAGAATCCCG  1620
TATTCCCCAA CCCACATCCT TCAGTCTGAA AGTGCCCCTA ACCACTACTT TCCCTACCAC  1680
GTCTCCCTTT CCAAGTTCCT CAAACGCAAA GCAAACAGCC ATTTCCTGCA CCTGTGTGCA  1740
GTCGTAGCAG TACGTAGGAG ATCCAATATG CCTGGCACAA GGGGGTGGGG TGGCCACAAA  1800
CAGAAGCAGC CCTGTCCTGC CAAGTACACG CCTGCCTGCC ACGCACAATG GGAGACATTC  1860
CGCAAGTTCC ACGTGATGGC TCAGAAGAGG GGCCTGTCAG GAAGATGTAG GGGCCAGCAG  1920
CCCCCGGCCG CGCCCCGCAA GGTGGCTGAC AGACGCCAGC AGCTGCCGGG GGCTCCGGGC  1980
TGCTCCTGCT CCCAGGATGT GTATCTGACT GGAGTTTCTG GATTAAAGGC CAGTCGTGGC  2040
TTCATTCCAC ATCCCTGGGT GCCCTTCGGC TCCTCCTAG
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Seq ID NO: 227 Protein sequence:
Protein Accession #: XP_064321.1

```
1          11         21         31         41         51
|          |          |          |          |          |
MVASSDQDRA PYLPGTLDKM PGPRLRSAQR PKAAQQEPGI EPGTYREGGG AIVLTYALGI    60
GVGITGNTVQ QPPQLTDSAS IRQEDAFDNK IDIAEDGGQT PYEATLQQSF QYSPTTDLPP   120
LTNGYLPSIS MYEIQTKYQS HNQYPNGNSK QKTTLNSRKP FPSTATTSVP QTVIPKKSGS   180
PEVKLKITKT IQNGRELFKS SLCGDLLNEV QASEHTKSKH ESRKEKRKKP KKHDSSRSEE   240
RKSHKIPKLE PEEQNRPNER VHTISEKPRE DPVLKEEAPV QPILSSVPTT EVSTGVKFQV   300
GDLVWSKVTV TPCWVPRLRG RRSHHCSSCL EILVLVPALS LKRSFMVSSL KFLTSTGKQK   360
PTFKGTAQMG WSPMASTTNV SLLLGHWEGT DQMSSRGPEF GGRRWVWQHQ KPQIRISICH   420
RPGKEPLRLS FLRCEVERRI SSLATSQGCW CSPPDHVCEK CLEDYAGRRH LTLRAQEAFL   480
GPDSRTGSLR AVGKRYCRNS QHQRYLLQGL LGGFLEERNA NEYDCKLETR EAASSTPRIP   540
YSPTHILQSE SAPNHYFPYH VSLSKFLKRK ANSHFLHLCA VVAVRRRSNM PGTRGWGGHK   600
QKQPCPAKYT PACHAQWETF RKFHVMAQKR GLSGRCRGQQ PPAAPRKVAD RRQQLPGAPG   660
CSCSQDVYLT GVSGLKASRG FIPHPWVPFG SS
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Seq ID NO: 228 DNA sequence
Nucleic Acid Accession #: NM_006033
Coding sequence: 253-1752 (underlined sequences correspond to start and stop codons)

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GCTGGAAACA CCAAGAGGTG GTTTTTGTTT TTTAAAACTT CTGTTTCTTG GGAGGGGGTG    240
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TATGCAGGCA ACTTCGTGAA AGGAACGGTG GGCCGAATCA CAGGTTTGGA TCCTGCCGGG    840
CCCATGTTTG AAGGGGCCGA CATCCACAAG AGGCTCTCTC CGGACGATGC AGATTTTGTG    900
GATGTCCTCC ACACCTACAC GCGTTCCTTC GGCTTGAGCA TTGGTATTCA GATGCCTGTG    960
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GTCTTGGGAT CAATTGCATA TGGAACAATC ACAGAGGTGG TAAAATGTGA GCATGAGCGA   1080
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CAGCGGAAAC TGACATTTTG TACAGAAGAC CCTGAGAACA CCAGCATATC CCCAGGCCGG   1680
GAGCTCTGGT TTCGCAAGTG TCGGGATGGC TGGAGGATGA AAAACGAAAC CAGTCCCACT   1740
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GAGGAACGCT GGCTCCGAAG AGGCCCTGTG TAGAAGGCTG TCAGCTGCTC AGCCTGCTTT   2160
GAGCCTCAGT GAGAAGTCCT TCCGACAGGA GCTGACTCAT GTCAGGATGG CAGGCCTGGT   2220
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CTGGGGGAGG CTATAGGATA TAAGCATTAG GGACCCTGAG GCTTTAAGTG GTTTCTATTT   2580
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GTAGGGGGAG AAGGGCAACT ATTATTATCC CTATTTTACA AAACTGAGGC TTAGTGAGGT   3060
TCAGCCACAT GCCTAGACTT ATATACTAGT TAGTGGTGCA GCCAGGGAGA GGACTCAGAT   3120
TTCCTGGAGG CAAAGTCTAT CTCTGAAACT CCATGAAGAC TTTTGCAGCC AGTTCCCACC   3180
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GTGTGCTTCT CTTGTTTCTG TGATTGCTTT CTAGCCAAAG CGAAGCTTGT ACAGGTTGAG   3540
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TTTGGAATGT TTGCATATAC ATAATGAGAT ATTTTGGGAA TAGGACCCGA GCCTAAACAC   3660
AAAATTCATT GATGTGTCAG TTACACCTTA TCCACATAGC CTGAGGGTAA TTTTATACGA   3720
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CATTTTTTGT CTTGTTGGTG CTCAAAAAGT TTTGGATTTT GGAGCATTTC GGATTTTGGA   3840
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TCTGTTTTTA CTAATGGAAG CTTTGCA
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Seq ID NO: 229 Protein sequence:

Protein Accession #: NP_006024.1

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FVKGTVGRIT GLDPAGPMFE GADIHKRLSP DDADFVDVLH TYTRSFGLSI GIQMPVGHID   240
IYPNGGDFQP GCGLNDVLGS IAYGTITEVV KCEHERAVHL FVDSLVNQDK PSFAFQCTDS   300
NRFKKGICLS CRKNRCNSIG YNAKKMRNKR NSKMYLKTRA GMPFRVYHYQ MKIHVFSYKN   360
MGEIEPTFYV TLYGTNADSQ TLPLEIVERI EQNATNTFLV YTEEDLGDLL KIQLTWEGAS   420
QSWYNLWKEF RSYLSQPRNP GRELNIRRIR VKSGETQRKL TFCTEDPENT SISPGRELWF   480
RKCRDGWRMK NETSPTVELP
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It is understood that the examples described above in no way serve to limit the true scope of this invention, but rather are presented for illustrative purposes. All publications, sequences of accession numbers, and patent applications cited in this specification are herein incorporated by reference as if each individual publication or patent application were specifically and individually indicated to be incorporated by reference.

WHAT IS CLAIMED IS:

1. A method of detecting an angiogenesis-associated transcript in a cell in a patient, the method comprising contacting a biological sample from the patient with a polynucleotide that selectively hybridized to a sequence at least 80% identical to a sequence as shown in Tables 1-8.

2. The method of claim 1, wherein the biological sample is a tissue sample.

3. The method of claim 1, wherein the biological sample comprises isolated nucleic acids.

4. The method of claim 3, wherein the nucleic acids are mRNA.

5. The method of claim 3, further comprising the step of amplifying nucleic acids before the step of contacting the biological sample with the polynucleotide.

6. The method of claim 1, wherein the polynucleotide comprises a sequence as shown in Tables 1-8 .

7. The method of claim 1, wherein the polynucleotide is labeled.

8. The method of claim 7, wherein the label is a fluorescent label.

9. The method of claim 1, wherein the polynucleotide is immobilized on a solid surface.

10. The method of claim 1, wherein the patient is undergoing a therapeutic regimen to treat a disease associated with angiongenesis.

11. The method of claim 1, wherein the patient is suspected of having cancer.

12. An isolated nucleic acid molecule consisting of a polynucleotide sequence as shown in Tables 1-8.

13. The nucleic acid molecule of claim 12, which is labeled.

14. The nucleic acid of claim 13, wherein the label is a fluorescent label

15. An expression vector comprising the nucleic acid of claim 12.

16. A host cell comprising the expression vector of claim 15.

17. An isolated polypeptide which is encoded by a nucleic acid molecule having polynucleotide sequence as shown in Tables 1-8

18. An antibody that specifically binds a polypeptide of claim 17.

19. The antibody of claim 18, further conjugated or fused to an effector component.

20. The antibody of claim 19, wherein the effector component is a fluorescent label.

21. The antibody of claim 19, wherein the effector component is a radioisotope.

22. The antibody of claim 19, which is an antibody fragment.

23. The antibody of claim 19, which is a humanized antibody

24. A method of detecting a cell undergoing angiogenesis in a biological sample from a patient, the method comprising contacting the biological sample with an antibody of claim 18.

25. The method of claim 24, wherein the antibody is further conjugated or fused to an effector component.

26. The method of claim 25, wherein the effector component is a fluorescent label.

27. The method of detecting antibodies specific to angiogenesis in a patient, the method comprising contacting a biological sample from the patient with a polypeptide which is encoded by a nucleotide sequence of Tables 1-8.